

chain nodes :

16

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ring/chain nodes :

17

chain bonds :

5-16 16-17

ring bonds :

1-2 1-7 2-3 2-8 3-4 3-11 4-5 5-6 6-7 6-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

exact/norm bonds :

1-2 1-7 3-4 4-5 5-6 16-17

exact bonds :

5-16

normalized bonds :

2-3 2-8 3-11 6-7 6-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom
13:Atom 14:Atom 15:Atom 16:CLASS 17:CLASS

10/510,008

=> d his

(FILE 'HOME' ENTERED AT 16:05:28 ON 21 OCT 2006)

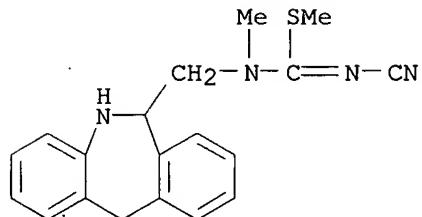
FILE 'REGISTRY' ENTERED AT 16:11:00 ON 21 OCT 2006

L1 STRUCTURE UPLOADED
L2 3 S L1
L3 79 S L1 SSS FUL
L4 78 S L3 AND CAPLUS/LC
L5 1 S L3 NOT L4

=> d

10/510,008

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 746575-89-3 REGISTRY
ED Entered STN: 17 Sep 2004
CN Carbamimidothioic acid, N'-cyano-N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N-methyl-, methyl ester (9CI) (CA INDEX NAME)
MF C19 H20 N4 S
CI COM
SR CA



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

10/510,008

=> => d his

(FILE 'HOME' ENTERED AT 16:05:28 ON 21 OCT 2006)

FILE 'REGISTRY' ENTERED AT 16:11:00 ON 21 OCT 2006

L1 STRUCTURE UPLOADED
L2 3 S L1
L3 79 S L1 SSS FUL
L4 78 S L3 AND CAPLUS/LC
L5 1 S L3 NOT L4

FILE 'CAPLUS' ENTERED AT 16:13:27 ON 21 OCT 2006

L6 33 S L3

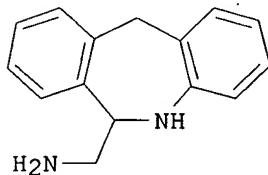
=> d ibib abs hitstr total

10/610,008

ANSWER 1 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:760395 CAPLUS
DOCUMENT NUMBER: 145:249115
TITLE: Preparation method of 6-aminomethyl-
6,11-dihydro-5H-dibenz[b,e]azepin
INVENTOR(S): Kang, Jae Hun; Kim, Gi Won; Lee, Don Gyu; Seo, Myeong
Won
PATENT ASSIGNEE(S): Il Dong Pharm Co., Ltd., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| KR 2004072009 | A | 20040816 | KR 2003-7939 | 20030207 |
| PRIORITY APPLN. INFO.: | | | KR 2003-7939 | 20030207 |

GI



I

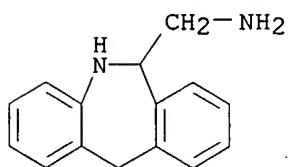
AB A method for the preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepin (I), thereby improving preparation yield and purity, and stably and cheaply preparing the compound under mild condition, so that the compound can be useful as an intermediate for production of medicines such as anti-histamine, is reported. The preparation method of 6-aminomethyl- 6,11-dihydro-5H-dibenz[b,e]azepin comprises hydrogenation in an alc. solvent in the presence of noble metal catalyst and inorg. acid. The noble metal catalyst is selected from palladium carbon, palladium black, palladium, platinum, platinum carbon, platinum oxide, rhodium, ruthenium and ruthenium carbon. The inorg. acid is selected from hydrochloric acid and sulfuric acid and the solvent is a C1-C4 lower alc.

IT 41218-84-2P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation method of 6-aminomethyl- 6,11-dihydro-5H-dibenz[b,e]azepin)

RN 41218-84-2 CAPLUS

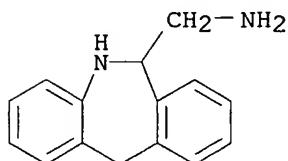
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



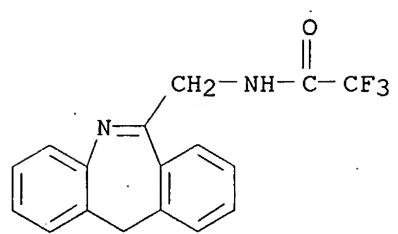
10/510,008

ANSWER 2 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:72777 CAPLUS
DOCUMENT NUMBER: 142:155838
TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine from N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoroacetamide
INVENTOR(S): Sasaki, Ryosuke; Ikeda, Shin; Suzuki, Yoshinobu; Takahashi, Yasuhiro
PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|--|-----------------|----------|
| JP 2005023034 | A2 | 20050127 | JP 2003-191388 | 20030703 |
| PRIORITY APPLN. INFO.: | | | JP 2003-191388 | 20030703 |
| AB | 6-Aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine (I), useful as an intermediate for antiallergy and antihistaminic 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine, is prepared from N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoroacetamide (II). Use of II requires no toxic hydrazine and shortens process. Thus, 5.0 g II, prepared from 6-chloromethyl-11H-dibenz[b,e]azepine and CF ₃ CONH ₂ , was reacted with NaBH ₄ in EtOH at room temperature for 2 h to give 2.8 g I. | | | |
| IT | 41218-84-2P | RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (preparation of (aminomethyl)dihydrodibenzazepine by reductive deacetylation of N-(dibenzazepinylmethyl)trifluoroacetamide) | | |
| RN | 41218-84-2 CAPLUS | | | |
| CN | 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- | (9CI) (CA INDEX NAME) | | |



IT 828939-27-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (aminomethyl)dihydrodibenzazepine by reductive deacetylation of N-(dibenzazepinylmethyl)trifluoroacetamide)
RN 828939-27-1 CAPLUS
CN Acetamide, N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoro- (9CI)
(CA INDEX NAME)

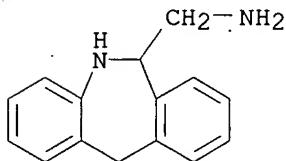


~~10/510,008~~

ANSWER 3 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:926567 CAPLUS
DOCUMENT NUMBER: 142:134594
TITLE: Method for preparation of epinastine and pharmaceutically acceptable salt thereof
INVENTOR(S): Hong, Du Pyo; Oh, Seong Su; Shin, Pil Su
PATENT ASSIGNEE(S): Bionast Co., Ltd., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| KR 2002091539 | A | 20021206 | KR 2001-30304 | 20010531 |
| | | | KR 2001-30304 | 20010531 |

PRIORITY APPLN. INFO.: AB Provided is a method for the preparation of epinastine which treats and prevents ache dolor pain and migraine headache, and its pharmaceutically acceptable salt. The method for the preparation of epinastine of the formula(I) is characterized by comprising the step of carrying out the reaction of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine of the formula(II) to cyanamid of the formula(III) or potassium cyanate rather than cyanogenbromide, bromine and N-methyl-benzylamine.
IT 41218-84-2
RN 41218-84-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)

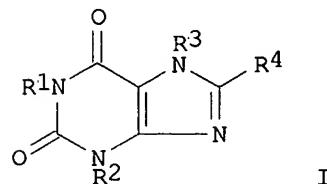


10/510,008

D6 ANSWER 4 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:408271 CAPLUS
DOCUMENT NUMBER: 140:423521
TITLE: Preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV)
INVENTOR(S): Himmelsbach, Frank; Langkopf, Elke; Eckhardt, Matthias; Maier, Roland; Mark, Michael; Tadayyon, Mohammad; Lotz, Ralf
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G., Germany
SOURCE: Ger. Offen., 39 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|------------|
| DE 10251927 | A1 | 20040519 | DE 2002-10251927 | 20021108 |
| US 2004138214 | A1 | 20040715 | US 2003-695597 | 20031028 |
| CA 2505389 | AA | 20040521 | CA 2003-2505389 | 20031103 |
| WO 2004041820 | A1 | 20040521 | WO 2003-EP12198 | 20031103 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2003293649 | A1 | 20040607 | AU 2003-293649 | 20031103 |
| EP 1562946 | A1 | 20050817 | EP 2003-788995 | 20031103 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| JP 2006512311 | T2 | 20060413 | JP 2004-548847 | 20031103 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10251927 | A 20021108 |
| | | | US 2002-429173P | P 20021126 |
| | | | WO 2003-EP12198 | W 20031103 |

OTHER SOURCE(S): MARPAT 140:423521
GI



AB Title compds. [I; R1 = (condensed heterocyclyl-substituted) C1-3 alkyl,

etc.; R₂ = H, alkyl, alkenyl, alkynyl, cycloalkyl, etc.; R₃ = (substituted) alkyl, aryl, alkenyl, alkynyl, etc.; R₄ = (substituted) azetidin-1-yl, pyrrolidin-1-yl, piperidin-1-yl, hexahydroazepin-1-yl, etc.] and tautomerics, stereoisomeric, mixts., prodrug, and salts thereof, were prepared. Thus, 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-[3-(tert-butyloxycarbonylamino)piperidin-1-yl]xanthine (preparation given) in CH₂Cl₂ was treated with isopropanolic HCl followed by stirring for 3 h at room temperature to give 77% 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-aminopiperidin-1-yl)xanthine. The latter inhibited DPP-IV with IC₅₀ = 13 nM.

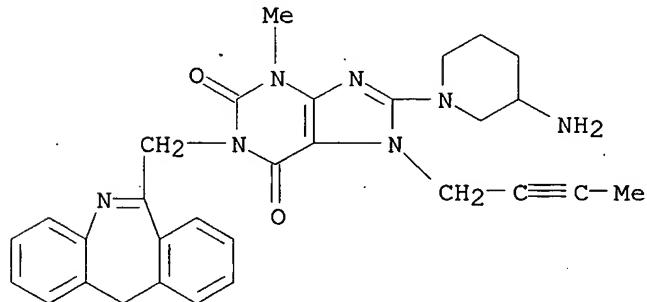
IT 690996-72-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-72-6 CAPLUS

CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-1-(11H-dibenz[b,e]azepin-6-ylmethyl)-3,7-dihydro-3-methyl- (9CI) (CA INDEX NAME)



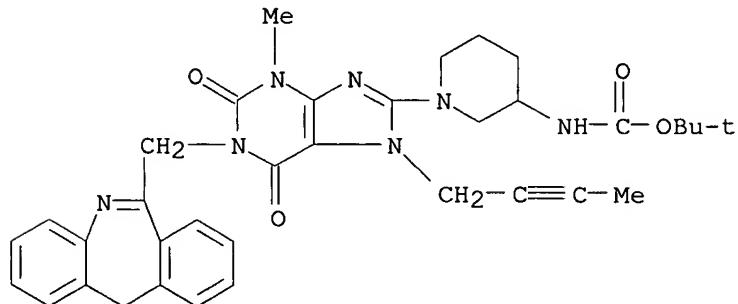
IT 690996-56-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-56-6 CAPLUS

CN Carbamic acid, [1-[(2-butynyl)-1-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



10/510,008

L6 ANSWER 5 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:202758 CAPLUS
DOCUMENT NUMBER: 142:176618
TITLE: Product subclass 6: benzazepines and their group 15 analogues
AUTHOR(S): Meigh, J.-P. K.
CORPORATE SOURCE: Germany
SOURCE: Science of Synthesis (2004), 17, 825-927
CODEN: SSCYJ9
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

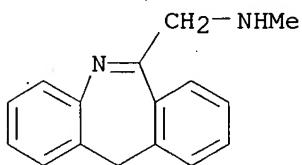
AB A review. Methods for preparing benzazepines and their Group 15 analogs are reviewed including cyclization, ring transformation, aromatization and substituent modification.

IT 46880-91-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of benzazepine and their Group 15 analogs via cyclization, ring transformation, aromatization and substituent modification)

RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

234 THERE ARE 234 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/510,008

ANSWER 6 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:139103 CAPLUS
DOCUMENT NUMBER: 140:181339
TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride
INVENTOR(S): Kawahara, Hiroshi; Mori, Masahiko; Hirai, Yasuo; Uchiyama, Yoshitaka
PATENT ASSIGNEE(S): Daito Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2004051585 | A2 | 20040219 | JP 2002-213441 | 20020723 |
| PRIORITY APPLN. INFO.: | | | JP 2002-213441 | 20020723 |

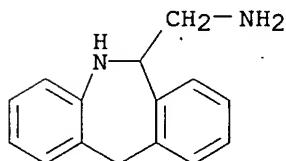
AB Title dibenzazepine derivative (I) is prepared by reduction of 6-succinimidomethyl-5H-dibenzo[b,e]azepine (II) with metal hydrides, followed by hydrolysis of the resulting 6-succinimidomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine (III) with alkali metal hydroxide. Thus, hydrogenation of II by Na triacetoxyborohydride in presence of AcOH gave 91.5% III, which was hydrolyzed in aqueous NaOH at 120-130° for 8 h to afford 90% I.

IT 80012-79-9P 339163-79-0P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (aminomethyl)dihydrodibenzazepine as intermediate for epinastine HCl from (succinimidomethyl)dibenzazepine)

RN 80012-79-9 CAPLUS
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

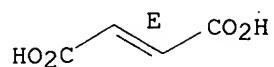
CRN 41218-84-2
CMF C15 H16 N2



CM 2

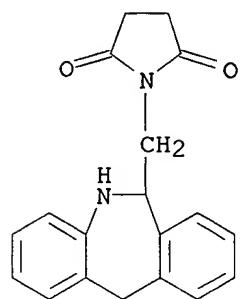
CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



RN 339163-79-0 CAPLUS

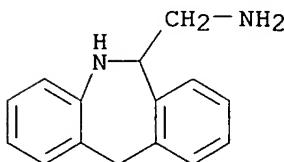
CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-
(9CI) (CA INDEX NAME)



10/510,008

ANSWER 7 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:883057 CAPLUS
DOCUMENT NUMBER: 139:364845
TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for antiallergic epinastine hydrochloride
INVENTOR(S): Matsumori, Yuki; Maekawa, Shigeharu
PATENT ASSIGNEE(S): Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

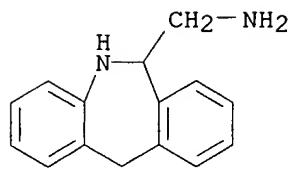
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|---|----------|-----------------|----------|
| JP 2003321454 | A2 | 20031111 | JP 2002-133606 | 20020509 |
| PRIORITY APPLN. INFO.: JP 2002-133606 20020509 | | | | |
| AB | The title compound (I) is prepared by treatment of 6-chloromethyl-5H-dibenzo[b,e]azepine (II) with 4-nitrophthalimide (III), reduction of the resulting 6-(4-nitrophthalimidomethyl)-5H-dibenzo[b,e]azepine (IV) with NaBH ₄ or NaBH(OAc) ₃ , and hydrazinolysis of the resulting 6-(4-nitrophthalimidomethyl)-6,11-dihydro-5H-dibenzo[b,e]azepine (V). Thus, refluxing II with III, K ₂ CO ₃ , and KI in MeCN gave 95% IV, which was treated with a mixture of NaBH ₄ and AcOH at ≤30° under stirring for 2 h to give 96% V. Decomposition of with H ₂ NNH ₂ .H ₂ O in ethylene glycol at 110° for 2 h and the crude product was treated with fumaric acid to give 90% I fumarate. Preparation of epinastine hydrochloride by cyclocondensation of V with BrCN and salt formation with HCl was also shown. | | | |
| IT | 41218-84-2P 127785-96-0P 622402-85-1P 622402-86-2P RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for antiallergic epinastine hydrochloride) | | | |
| RN | 41218-84-2 CAPLUS | | | |
| CN | 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME) | | | |



RN 127785-96-0 CAPLUS
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

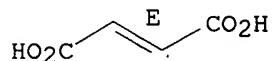
CRN 41218-84-2
CMF C15 H16 N2



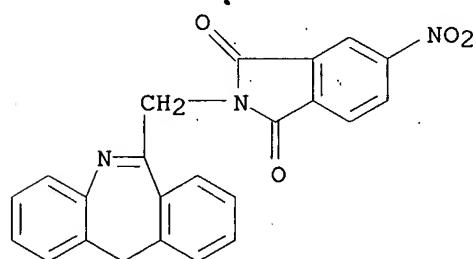
CM 2

CRN 110-17-8
CMF C4 H4 O4

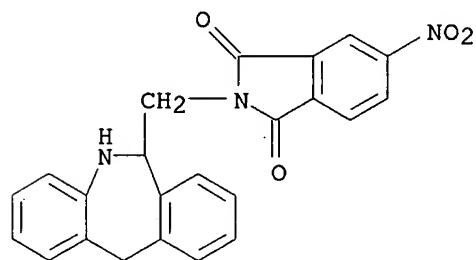
Double bond geometry as shown.



RN 622402-85-1 CAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-5-nitro-
(9CI) (CA INDEX NAME)

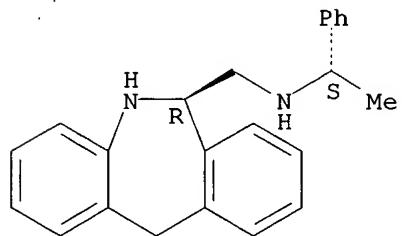


RN 622402-86-2 CAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-
yl)methyl]-5-nitro- (9CI) (CA INDEX NAME)



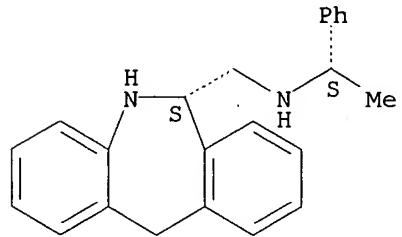
L6 ANSWER 8 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:841781 CAPLUS
 DOCUMENT NUMBER: 140:94009
 TITLE: Stereoselective synthesis of (R)-(-)-mianserin
 AUTHOR(S): Pawłowska, J.; Czarnocki, Z.; Wojtasiewicz, K.; Maurin, J. K.
 CORPORATE SOURCE: Faculty of Chemistry, Warsaw University, Warsaw, 02-093, Pol.
 SOURCE: Tetrahedron: Asymmetry (2003), 14(21), 3335-3342
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:94009
 AB (14BR)-2-Methyl-1,2,3,4,10,14b-hexahydrodibenzo[c,f]pyrazino[1,2-a]azepine, (R)-(-)-mianserin, was synthesized in several steps in good enantiomeric purity with the use of (S)-(-)- α -methylbenzylamine. The absolute configuration was assigned on the basis of X-ray data.
 IT 642442-04-4P 642442-05-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (cyclocondensation of; multistep stereoselective synthesis of enantiomerically pure mianserin)
 RN 642442-04-4 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(1S)-1-phenylethyl]-, (6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 642442-05-5 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(1S)-1-phenylethyl]-, (6S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 642442-03-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

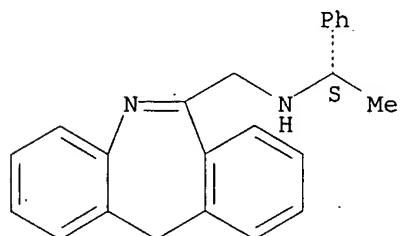
10/510,008

(reduction of; multistep stereoselective synthesis of enantiomerically pure
mianserin)

RN 642442-03-3 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-[(1S)-1-phenylethyl]- (9CI) (CA
INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

21

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:818400 CAPLUS
 DOCUMENT NUMBER: 139:292167
 TITLE: Method for preparing 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine
 INVENTOR(S): Ikeda, Shin; Takahashi, Yasuhiro
 PATENT ASSIGNEE(S): Konica Chemical Corporation, Japan
 SOURCE: PCT Int. Appl., 12 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|------------|
| WO 2003084932 | A1 | 20031016 | WO 2002-JP3602 | 20020411 |
| W: BR, CN, IN, KR, MX, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| EP 1496051 | A1 | 20050112 | EP 2002-714572 | 20020411 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| CN 1625551 | A | 20050608 | CN 2002-828864 | 20020411 |
| US 2005209215 | A1 | 20050922 | US 2004-510008 | 20040930 |
| PRIORITY APPLN. INFO.: | | | WO 2002-JP3602 | W 20020411 |

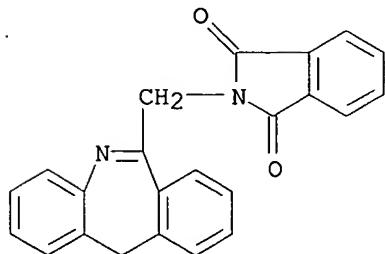
AB The patent relates to the preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine, characterized in that it comprises reducing 2-(11H-dibenz[b,e]azepine-6-ylmethyl)-1H-isoindole-1,3(2H)-dione with a metal hydride or a metal hydrogen complex compound in an aqueous alc. solvent, to form N-[(6,11-dihydro-5H-dibenz[b,e]azepine-6-yl)methyl]-o-hydroxymethylbenzamide; and 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine. Thus, N-[(6,11-dihydro-5H-dibenz[b,e]azepine-6-yl)methyl]-o-hydroxymethylbenzamide was prepared by reduction of 2-(11H-dibenz[b,e]azepine-6-ylmethyl)-1H-isoindole-1,3(2H)-dione with sodium borohydride in isopropanol at 30°.

IT 74860-00-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (in preparation of hydroxymethylbenzamide azepine derivative)

RN 74860-00-7 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)
 (CA INDEX NAME)



IT 608489-39-0P

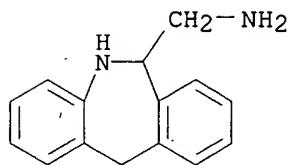
RL: SPN (Synthetic preparation); PREP (Preparation)
 (in preparation of hydroxymethylbenzamide azepine derivative)

10/510,008

RN 608489-39-0 CAPLUS
CN Formic acid, compd. with 6,11-dihydro-5H-dibenz[b,e]azepine-6-methanamine
(9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2
CMF C15 H16 N2

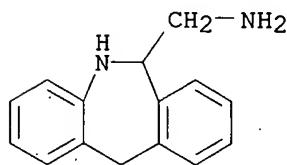


CM 2

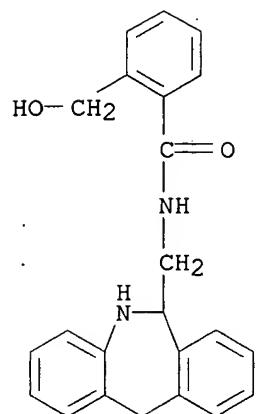
CRN 64-18-6
CMF C H2 O2

O=CH-OH

IT 41218-84-2P 439288-43-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of hydroxymethylbenzamide azepine derivative)
RN 41218-84-2 CAPLUS
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



RN 439288-43-4 CAPLUS
CN Benzamide, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-2-(hydroxymethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/510,008

L6 ANSWER 10 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:20014 CAPLUS

DOCUMENT NUMBER: 138:73185

TITLE: Reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst.

INVENTOR(S): Leone, Mario

PATENT ASSIGNEE(S): Icrom S.p.A., Italy

SOURCE: Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

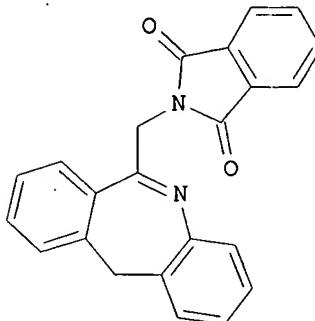
DOCUMENT TYPE: Patent

LANGUAGE: English

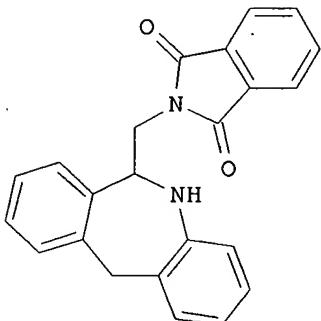
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|--------------------|----------|-----------------|----------|
| EP 1273583 | A1 | 20030108 | EP 2001-116077 | 20010703 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| PRIORITY APPLN. INFO.: | EP 2001-116077 | | | 20010703 |
| OTHER SOURCE(S): | CASREACT 138:73185 | | | |
| GI | | | | |



I



II

AB 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione (I) was reduced to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione (II) in an organic solvent, in the presence of a group VIIIB metallic catalyst and HCO₂H and/or ≥1 pharmaceutically acceptable salt thereof. Thus, I was stirred with HCO₂H, NH₃, and Pd/C in dimethylacetamide at 80° for 3 h to give 92% II.

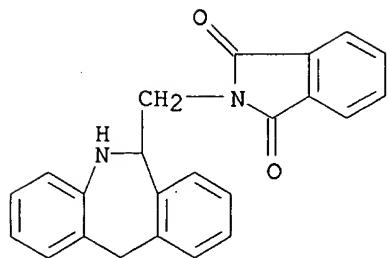
IT 143878-20-0P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)

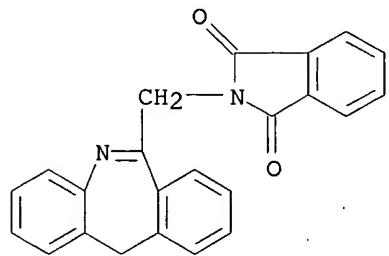


IT 74860-00-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst)

RN 74860-00-7 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)
(CA INDEX NAME)



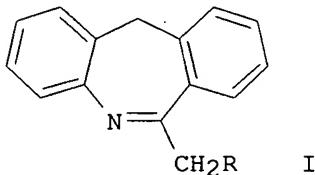
REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 11 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:802417 CAPLUS
 DOCUMENT NUMBER: 137:310828
 TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride; antiallergy agent
 INVENTOR(S): Kawahara, Hiroshi; Mori, Masahiko; Hirai, Yasuo
 PATENT ASSIGNEE(S): Daito K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|----------|------------|-----------------|----------|
| JP 2002308851 | A2 | 20021023 | JP 2001-114825 | 20010413 |
| PRIORITY APPLN. INFO.: | | | JP 2001-114825 | 20010413 |
| OTHER SOURCE(S): | CASREACT | 137:310828 | | |
| GI | | | | |



AB Title dibenzazepine derivative (I) is prepared from chloromethyl derivative II
 (R =

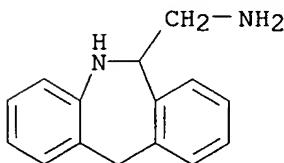
Cl) via II (R = succinimido) and 6-succinimidomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine (III). Thus, refluxing II (R = Cl) with succinimide, K2CO3, and KI in MeCN gave quant. II (R = succinimido), which was hydrogenated over Pd/C in the presence of HCO2H in DMF under normal pressure to afford 90% III. Decomposition of III with NH2NH2.H2O in ethylene glycol and aqueous NaOH gave 90% I.

IT 41218-84-2P 127785-96-0P 339163-78-9P
 339163-79-0P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride)

RN 41218-84-2 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



10/510,008

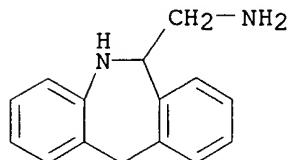
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

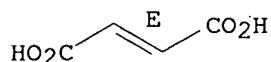


CM 2

CRN 110-17-8

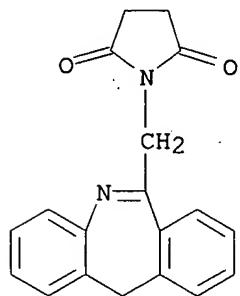
CMF C4 H4 O4

Double bond geometry as shown.



RN 339163-78-9 CAPLUS

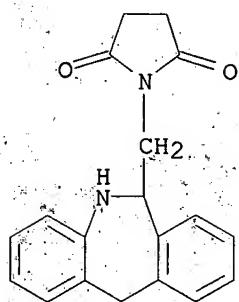
CN 2,5-Pyrrolidinedione, 1-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI) (CA INDEX NAME)



RN 339163-79-0 CAPLUS

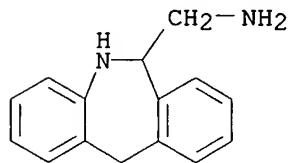
CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)

10/510,008

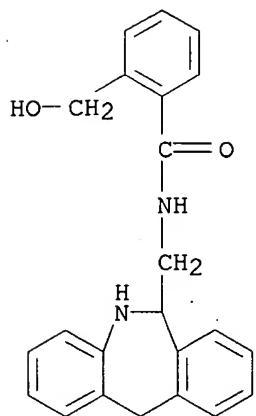


L6 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:514281 CAPLUS
 DOCUMENT NUMBER: 137:63183
 TITLE: One-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine without using hydrazine
 INVENTOR(S): Enomoto, Takahiro; Sasaki, Ryosuke; Ikeda, Nobu;
 Takahashi, Yasuhiro
 PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------|
| JP 2002193939 | A2 | 20020710 | JP 2000-395744 | 20001226 |
| PRIORITY APPLN. INFO.: | | | JP 2000-395744 | 20001226 |
| OTHER SOURCE(S): | CASREACT 137:63183 | | | |
| AB | Title compound (I) is prepared by treatment of 6-phthalimidomethyl-5H-dibenz[b,e]azepine (II) with metal hydride (complex) via N-[{(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl}-o-hydroxymethylbenzamide. Thus, II was treated with NaBH4 at room temperature overnight in aqueous isopropanol, treated with AcOH, adjusted to pH 11, extracted | | | |
| | with MePh, concentrated, and treated with MeOH solution of fumaric acid to give 69.0% I fumarate. | | | |
| IT | 41218-84-2P 439288-43-4P RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine) | | | |
| RN | 41218-84-2 CAPLUS | | | |
| CN | 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME) | | | |



RN 439288-43-4 CAPLUS
 CN Benzamide, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-2-(hydroxymethyl)- (9CI) (CA INDEX NAME)



IT 127785-96-0P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine)

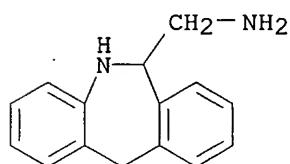
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

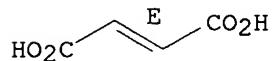


CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.

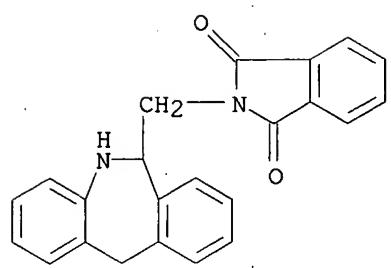


IT 143878-20-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



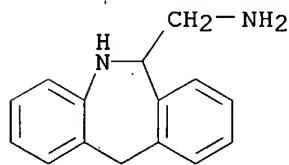
10/510,008

ANSWER 13 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:513077 CAPLUS
DOCUMENT NUMBER: 137:80614
TITLE: Production method of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine
INVENTOR(S): Ikeda, Nobu; Takahashi, Yasuhiro
PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|-----------------|----------|
| JP 2002193940 | A2 | 20020710 | JP 2000-395753 | 20001226 |
| PRIORITY APPLN. INFO.: | | | JP 2000-395753 | 20001226 |
| AB | The title compound (I) is prepared by hydrogenation of 6-cyano-11H-dibenz[b,e]azepine in a lower fatty acid solvent in the presence of a precious metal catalyst. I is a pharmaceutical intermediate. | | | |
| IT | 127785-96-0P RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation) (Hydrogenation of 6-cyano-11H-dibenz[b,e]azepine) | | | |
| RN | 127785-96-0 CAPLUS | | | |
| CN | 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME) | | | |

CM 1

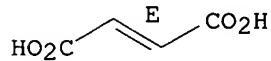
CRN 41218-84-2
CMF C15 H16 N2



CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.

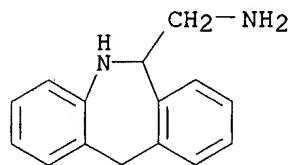


IT 41218-84-2P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(production method of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine as pharmaceutical intermediate)

RN 41218-84-2 CAPLUS

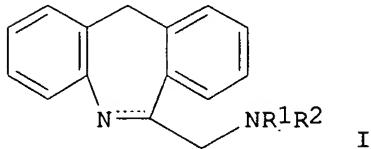
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



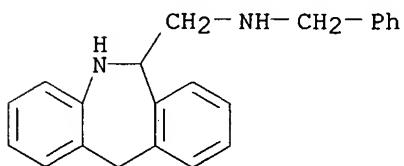
10/510,008

ANSWER 14 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:843692 CAPLUS
DOCUMENT NUMBER: 135:371654
TITLE: Preparation of 6-aminomethyl-5,6-dihydromorphanthridine
INVENTOR(S): Watanabe, Hiroyuki; Kawanobe, Tsuneo
PATENT ASSIGNEE(S): Hasegawa Koryo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT. NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|--|----------------------------------|----------------------|
| JP 2001322982 | A2 | 20011120 | JP 2000-140638 JP 2000-140638 | 20000512 20000512 |
| PRIORITY APPLN. INFO.: | | | | |
| OTHER SOURCE(S): | | CASREACT 135:371654; MARPAT 135:371654 | | |
| GI | | | | |



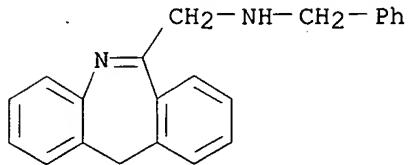
- AB Title compound is prepared by catalytic hydrogenation of I (R1 = NH₂-protecting group; R2 = H, NH₂-protecting group; dotted line represents optional bond). Benzylamine was reacted with 6-chloromethylmorphanthridine under ice-cooling for 5 h and hydrogenated with H in the presence of Pd/C in MeOH at 80° under 0.5 MPa for 5 h to give 63% 6-aminomethyl-5,6-dihydromorphanthridine.
- IT 41218-94-4P, 6-(Benzylamino)methyl-5,6-dihydromorphanthridine
374557-57-0P, 6-(Benzylamino)methylmorphanthridine
374557-58-1P, 6-(4-Methoxybenzylamino)methyl-5,6-dihydromorphanthridine 374557-59-2P, 6-(4-Methoxybenzylamino)methylmorphanthridine
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of aminomethyl dihydromorphanthridine)
- RN 41218-94-4 CAPLUS
- CN 5H-Dibenz[b,e]azepine-6-méthanamine, 6,11-dihydro-N-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 374557-57-0 CAPLUS

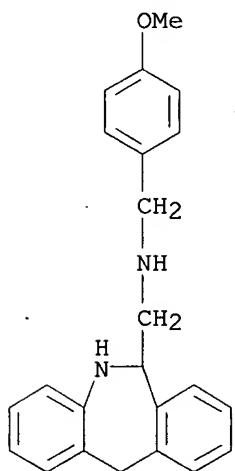
10/510,008

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-(phenylmethyl)- (9CI) (CA INDEX NAME)



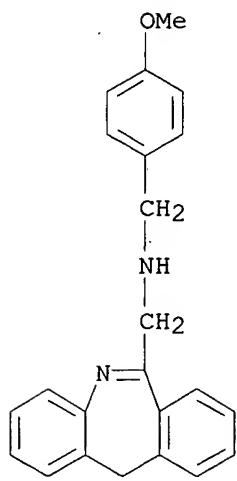
RN 374557-58-1 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(4-methoxyphenyl)methyl]- (9CI) (CA INDEX NAME)

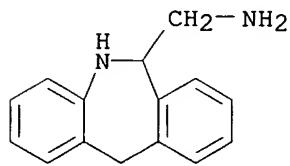


RN 374557-59-2 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-[(4-methoxyphenyl)methyl]- (9CI) (CA INDEX NAME)

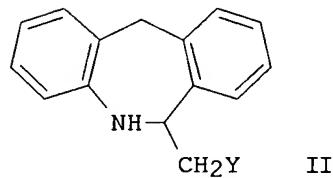
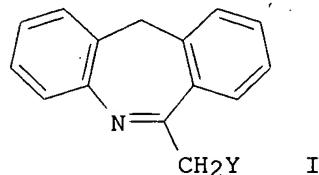


IT 41218-84-2P, 6-Aminomethyl-5,6-dihydromorphanthridine
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(preparation of aminomethylidihydromorphanthridine)
RN 41218-84-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



16 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:347102 CAPLUS
 DOCUMENT NUMBER: 134:353305
 TITLE: Preparation of dibenz[c,f]imidazo[1,5-a]azepines for antiallergic agents and its intermediates
 INVENTOR(S): Shimamura, Hiroshi; Terashima, Koji; Yamashita, Takehiko
 PATENT ASSIGNEE(S): Ohara Yakuhin Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|----------|-------------------------------|-----------------|----------|
| JP 2001131177 | A2 | 20010515 | JP 1999-317070 | 19991108 |
| PRIORITY APPLN. INFO.: | | | JP 1999-317070 | 19991108 |
| OTHER SOURCE(S): | CASREACT | 134:353305; MARPAT 134:353305 | | |
| GI | | | | |

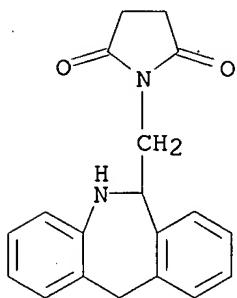


- AB 3-Amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrohalides, useful for antiallergic agents (no data), are prepared by hydrogenation of dibenzazepines I (Y = imide group), reaction of dihydridobenzazepines II (Y = imide group) with amines, and reaction of 6-(aminomethyl)-6,11-dihydro-5H-dibenz[b,e]azepine with cyanogen halides. 6-(Succinimidomethyl)-5H-dibenz[b,e]azepine was hydrogenated with H in the presence of Pd/C in DMF at 50° and reacted with ethylenediamine in MeOCH2CH2OH under reflux for 16 h to give 6-(aminomethyl)-6,11-dihydro-5H-dibenz[b,e]azepine, which was cyclized with BrCN in CH2Cl2 at room temperature for 8 h to give 80% 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrobromide.
- IT 339163-79-0P 339163-80-3P, 11H-Dibenz[b,e]azepine-6-methanamine
- RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic

preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dibenzimidazoazepines by hydrogenation, amination, and
cyclization)

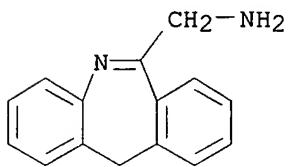
RN 339163-79-0 CAPLUS

CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-
(9CI) (CA INDEX NAME)



RN 339163-80-3 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine (9CI) (CA INDEX NAME)

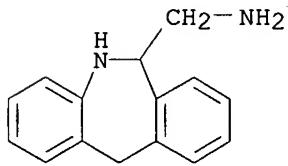


IT 41218-84-2P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)
(preparation of dibenzimidazoazepines by hydrogenation, amination, and
cyclization)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)

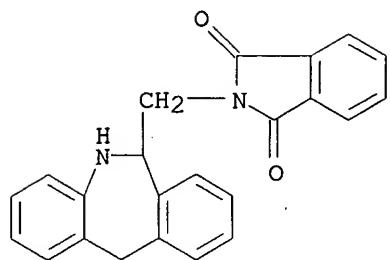


IT 143878-20-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of dibenzimidazoazepines by hydrogenation, amination, and
cyclization)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-
yl)methyl]- (9CI) (CA INDEX NAME)

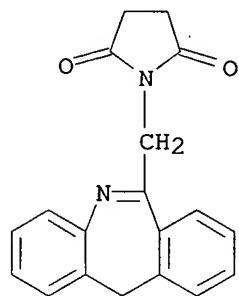


IT 339163-78-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation of dibenzimidazoazepines by hydrogenation, amination, and
cyclization)

RN 339163-78-9 CAPLUS

CN 2,5-Pyrrolidinedione, 1-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI) (CA
INDEX NAME)



10/510,008

ANSWER 16 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:174091 CAPLUS
DOCUMENT NUMBER: 134:222712
TITLE: Preparation of antiallergic epinastine and imidazoline compounds as their intermediates
INVENTOR(S): Masagaki, Takeshi; Kakita, Takao; Deguchi, Shuhei
PATENT ASSIGNEE(S): Sawai Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--|----------|
| JP 2001064282 | A2 | 20010313 | JP 1999-236149 | 19990823 |
| JP 3563643 | B2 | 20040908 | JP 1999-236149 | 19990823 |
| PRIORITY APPLN. INFO.: | | | CASREACT 134:222712; MARPAT 134:222712 | |
| OTHER SOURCE(S): | | | | GI |

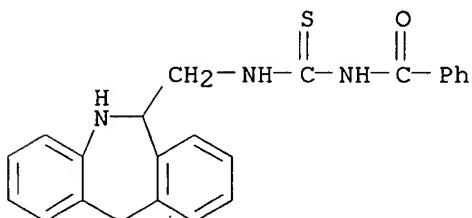
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Condensed (acylamino)imidazoline compds. I (R3 = acyl), useful as intermediates for epinastine, are prepared by intramol. cyclization of II (R3 = same as in I) or III (R3 = same as in I). III may be prepared by treating 6,11-dihydro-5H-dibenzo[b,e]azepine-6-methanamine with R3NCS (R3 = same as in III) in organic solvents. II may be prepared by cyclizing 2-HOCH₂C₆H₄NHCHPhCH₂NHCSNHR3 (R3 = same as in II) (IV). IV may be prepared by treating 2-[(2-2-amino-1-phenylethyl)amino]benzenemethanol with R3NCS (R3 = acyl) in organic solvents. Preparation of epinastine from PhCH(OH)CH₂NH₂ with 7 steps was shown.

IT 329038-65-5
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of antiallergic epinastine and imidazoline compds. as their intermediates)

RN 329038-65-5 CAPLUS

CN Benzamide, N-[[[(6,11-dihydro-5H-dibenzo[b,e]azepin-6-yl)methyl]amino]thioxomethyl]- (9CI) (CA INDEX NAME)

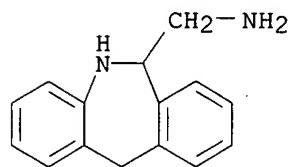


IT 41218-84-2
RL: RCT (Reactant); RACT (Reactant or reagent)

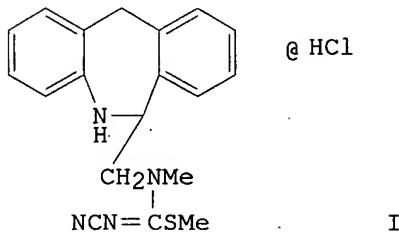
(preparation of antiallergic epinastine and imidazoline compds. as their
intermediates)

RN 41218-84-2 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



ANSWER 17 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:604883 CAPLUS
 DOCUMENT NUMBER: 117:204883
 TITLE: 6-[N,S-dimethyl-N'-cyanothioureidomethyl]-6,11-dihydro-
 5H-dibenzo[b,e]azepine hydrochloride (Fran 12): a
 histamine and 5-hydroxytryptamine antagonist with
 pressor properties
 AUTHOR(S): Law, S. C.; Guyett, F. J.; King, R. G.; Boura, A. L.
 A.; Jackson, W. R.; Hodgson, W. C.
 CORPORATE SOURCE: Dep. Pharmacol., Monash Univ., Clayton, 3168,
 Australia
 SOURCE: Archives Internationales de Pharmacodynamie et de
 Therapie (1992), 317, 67-80
 DOCUMENT TYPE: CODEN: AIPTAK; ISSN: 0003-9780
 LANGUAGE: Journal
 English
 GI.



AB The authors have synthesized and examined some of the pharmacol. properties of Fran 12 (I), a derivative of 6-methylaminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine. In the guinea-pig isolated ileum, Fran 12 (10⁻⁷-10⁻⁵ M) caused parallel rightward shifts of the concentration-response curves to histamine. A Schild plot gave a PA2 of 7.48, with a slope not significantly different from -1.0. In the rat stomach fundus strip and in endothelium-denuded aortic rings, Fran 12 inhibited contractile responses to 5-hydroxytryptamine in a non-competitive manner. In both chloralose-anesthetized and pithed rats, it inhibited pressor responses to 5-hydroxytryptamine. It had no effect on depressor responses to 5-hydroxytryptamine in anesthetized rats. It pithed rats, Fran 12 (0.25-2mg/kg, i.v.) produced dose-dependent increases in blood pressure. These were not inhibited by i.v. phentolamine, prazosin, yohimbine, propranolol, methysergide, pentolinium or atropine but were inhibited by verapamil. These results indicate that Fran 12 is a histamine and 6-hydroxytryptamine antagonist which also exerts pressor effects via a peripheral action. The pressor action does not appear to be mediated via effects on α₁- or α₂-adrenoceptors, muscarinic or nicotinic choloineceptors or 5-hydroxytryptamine receptors, although calcium channel activation may play a role.

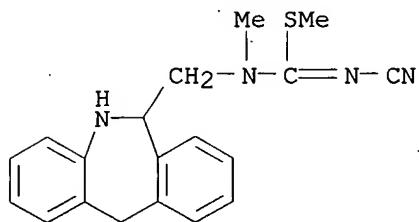
IT 144332-32-1P, Fran 12

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and pharmacol. activity of)

RN 144332-32-1 CAPLUS

10/510,008

CN Carbamimidothioic acid, N'-cyano-N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N-methyl-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)



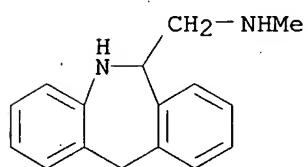
● HCl

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with di-Me cyanodithiocarboxylate)

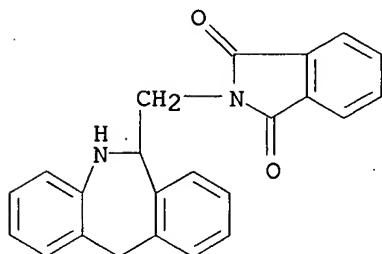
RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



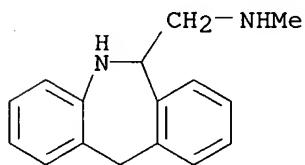
L6 ANSWER 18 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:591840 CAPLUS
 DOCUMENT NUMBER: 117:191840
 TITLE: Process for preparation of 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrochloride
 INVENTOR(S): Schneider, Heinrich
 PATENT ASSIGNEE(S): Boehringer Ingelheim K.-G., Germany; Boehringer Ingelheim International G.m.b.H.
 SOURCE: Eur. Pat. Appl., 7 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|----------|-----------------|------------|
| EP 496306 | A1 | 19920729 | EP 1992-100798 | 19920118 |
| EP 496306 | B1 | 19950913 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE | | | | |
| DE 4102148 | A1 | 19920730 | DE 1991-4102148 | 19910125 |
| ES 2078559 | T3 | 19951216 | ES 1992-100798 | 19920118 |
| US 5312916 | A | 19940517 | US 1992-824415 | 19920123 |
| JP 04346988 | A2 | 19921202 | JP 1992-10415 | 19920124 |
| JP 3133448 | B2 | 20010205 | | |
| KR 196965 | B1 | 19990615 | KR 1992-978 | 19920124 |
| PRIORITY APPLN. INFO.: | | | DE 1991-4102148 | A 19910125 |
| AB | The title compound was prepared by a process comprising (a) hydrogenation of 6-phthalimidomethyl-6,11-dihydro-5H-dibenz[b,e]azepine; (b) hydrazinolysis and subsequent cyclization of the product with BrCN; and (c) treatment of the resultant base with HCl. The title compound is prepared in 61.6% overall yield. | | | |
| IT | 143878-20-0P | | | |
| RL | RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation, hydrazinolysis, and cyclization of) | | | |
| RN | 143878-20-0 | CAPLUS | | |
| CN | 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME) | | | |

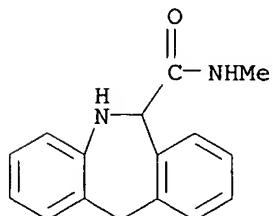


L6 ANSWER 19 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:632304 CAPLUS
 DOCUMENT NUMBER: 115:232304
 TITLE: Preparation of mianserin and analogs
 INVENTOR(S): Haider, Akhtar; Bollinger, Heinrich; Fischer, Alan
 PATENT ASSIGNEE(S): Societe Chimique de Vionnaz S. A. (SOCHINAZ), Switz.
 SOURCE: Fr. Demande, 18 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

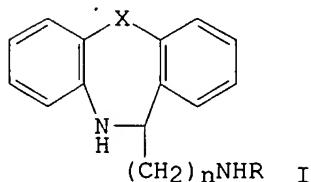
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|-----------------|------------|
| FR 2647114 | A1 | 19901123 | FR 1990-3115 | 19900312 |
| CH 678623 | A | 19911015 | CH 1989-1835 | 19890517 |
| PRIORITY APPLN. INFO.: | | | CH 1989-1835 | A 19890517 |
| OTHER SOURCE(S): | MARPAT 115:232304 | | | |
| GI | For diagram(s), see printed CA Issue. | | | |
| AB | The title compds. [I; R ₁ ,R ₂ = H, halo, OH, alkyl, alkoxy, CF ₃ ; R ₃ = H, (ar)alkyl; p, q = 1,2] were prepared Thus, PhCHClCONHMe (preparation given) was | | | |
| | condensed with 2-(H ₂ N)C ₆ H ₄ CH ₂ OH and the product cyclized to give dibenzazepine II (R = CONHMe) which was reduced to II (R = CH ₂ NHMe). The latter was cyclocondensed with BrCH ₂ CH ₂ Br to give mianserin. | | | |
| IT | 21535-45-5P 133806-67-4P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, in preparation of mianserin) | | | |
| RN | 21535-45-5 CAPLUS | | | |
| CN | 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME) | | | |



RN 133806-67-4 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-carboxamide, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



ANSWER 20 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1990:417487 CAPLUS
 DOCUMENT NUMBER: 113:17487
 TITLE: New tetracyclic guanidine derivatives with H1-antihistaminic properties. Chemistry of epinastine
 AUTHOR(S): Walther, G.; Daniel, H.; Bechtel, W. D.; Brandt, K.
 CORPORATE SOURCE: Dep. Med. Chem., Boehringer Ingelheim KG,
 Ingelheim/Rhein, D-6507, Germany
 SOURCE: Arzneimittel-Forschung (1990), 40(4), 440-6
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 113:17487
 GI



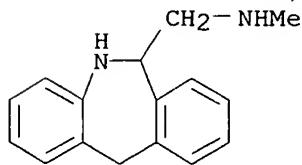
AB A series of new tetracyclic guanidines (I, X = O, S, CH₂; R = NH₂, NHMe, morpholine, etc.; n = 1) were synthesized by various methods. Specific binding of I to histamine-1 and histamine-2 receptors was determined. Epinastine, I (X = CH₂; R = NH₂; n = 1) combines high selectivity with high affinity for the H1 receptor and was selected from I studied for further pharmacol. and clin. investigations. Exptl. determined physicochem. parameters (pK_a-value, partition coefficient) and the hydrogen-bonding ability of epinastine are indications that this compound will not easily cross the blood-brain barrier. This explains the absence of CNS side-effects of epinastine in pharmacol. and clin. studies.

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of)

RN 21535-45-5 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



IT 127785-96-0P 127786-00-9P 127786-01-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclization of)

10/510,008

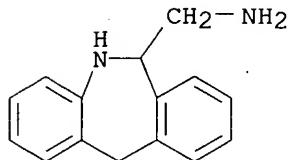
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

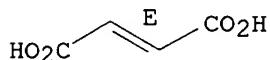


CM 2

CRN 110-17-8

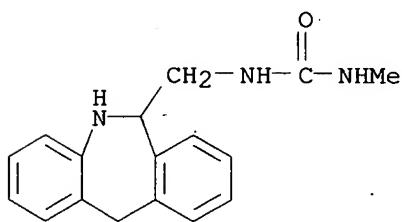
CMF C4 H4 O4

Double bond geometry as shown.



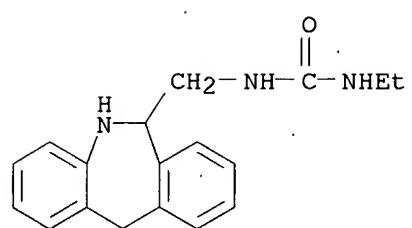
RN 127786-00-9 CAPLUS

CN Urea, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N'-methyl- (9CI)
(CA INDEX NAME)



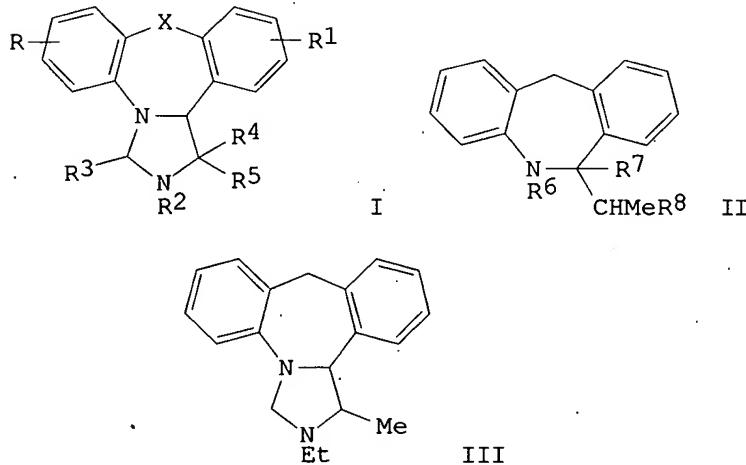
RN 127786-01-0 CAPLUS

CN Urea, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N'-ethyl- (9CI)
(CA INDEX NAME)



ANSWER 21 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1985:45941 CAPLUS
 DOCUMENT NUMBER: 102:45941
 TITLE: Tetracyclic compounds
 INVENTOR(S): Connell, Anthony Christopher
 PATENT ASSIGNEE(S): Beecham Group PLC, UK
 SOURCE: PCT Int. Appl., 73 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------|------|----------|-----------------|------------|
| WO 8402704 | A1 | 19840719 | WO 1983-GB353 | 19831229 |
| WO 8402704 | A3 | 19840802 | | |
| W: AU, GB, JP, US | | | | |
| RW: BE, CH, DE, FR, GB, NL, SE | | | | |
| AU 8424163 | A1 | 19840802 | AU 1984-24163 | 19831229 |
| EP 130202 | A1 | 19850109 | EP 1984-900292 | 19831229 |
| R: BE, CH, DE, FR, GB, LI, NL, SE | | | | |
| JP 60500176 | T2 | 19850207 | JP 1984-500471 | 19831229 |
| PRIORITY APPLN. INFO.: | | | GB 1982-36881 | A 19821230 |
| | | | WO 1983-GB353 | A 19831229 |
| OTHER SOURCE(S): MARPAT 102:45941 | | | | |
| GI | | | | |



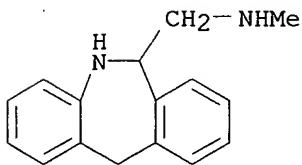
AB Antidepressant and anxiolytic dibenzimidazoheterocycles I [R, R1 = H, OH, halo, CF₃, alkyl, alkoxy; R2 = alkenyl, alkynyl, cycloalkyl, cycloalkenyl, (un)substituted alkyl; R3-R5 = H, alkyl; X = CH₂, O, S, alkylimino] were prepared. Thus 2-PhCH₂C₆H₄NH₂ was treated with MeCHBrCOCl to give 2-PhCH₂C₆H₄NHCOCHBrMe, which cyclocondensed to form dibenzazepine II (R6R7 = bond, R8 = Br). Amination of the last, followed by reduction using LiAlH₄ at -78°, gave 1 diastereomer of II (R6 = R7 = H; R8 = NH₂), which cyclocondensed with H₂CO to give dibenzimidazazepine III. III had an ED₅₀ of 1.6 mg/kg orally for inhibition of 5-methoxy-N,N-dimethyltryptamine-induced motions in mice.

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclocondensation of, with acetaldehyde, dibenzimidazoazepine by)

RN 21535-45-5 CAPLUS

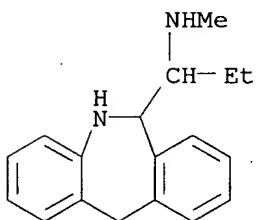
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



IT 94018-72-1P 94019-10-0P 94019-11-1P
 94019-12-2P 94019-13-3P 94019-20-2P
 94019-21-3P 94019-22-4P 94019-23-5P
 94036-80-3P 94727-55-6P 94727-56-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclocondensation of, with formaldehyde, dibenzimidazoazepine by)

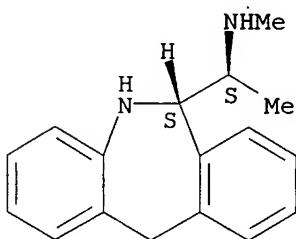
RN 94018-72-1 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, α -ethyl-6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

RN 94019-10-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 94019-11-1 CAPLUS

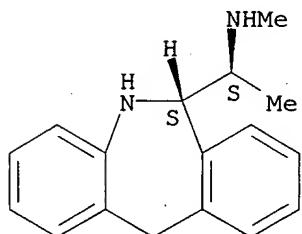
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-, (α R, 6 R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

10/510,008

CM 1

CRN 94019-10-0
CMF C17 H20 N2

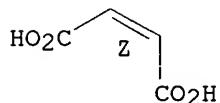
Relative stereochemistry.



CM 2

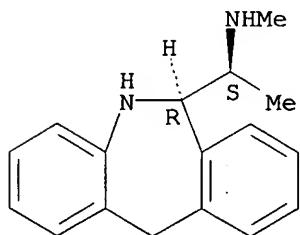
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-12-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,α-dimethyl-,
(R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

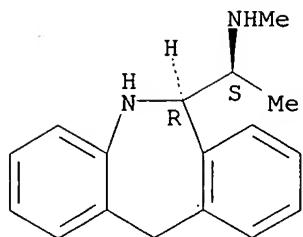


RN 94019-13-3 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,α-dimethyl-,
(αR,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-12-2
CMF C17 H20 N2

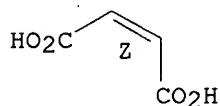
Relative stereochemistry.



CM 2

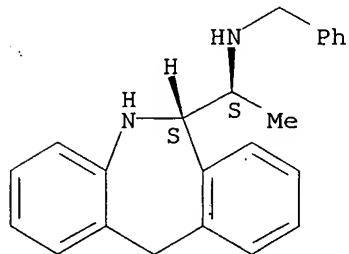
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-20-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-alpha-methyl-N-(phenylmethyl)-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

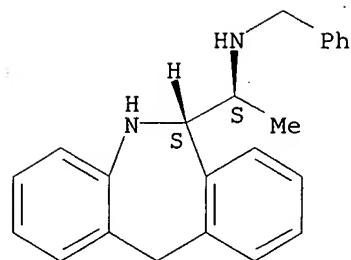


RN 94019-21-3 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-alpha-methyl-N-(phenylmethyl)-, (alpha R, 6 R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-20-2
CMF C23 H24 N2

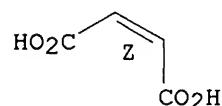
Relative stereochemistry.



CM 2

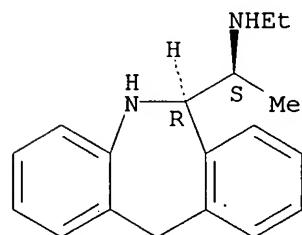
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-22-4 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine; N-ethyl-6,11-dihydro- α -methyl-,
(R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

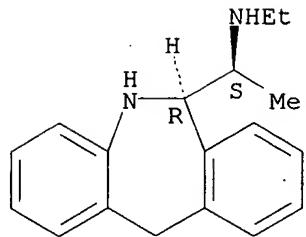


RN 94019-23-5 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-,
(α R,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-22-4
CMF C18 H22 N2

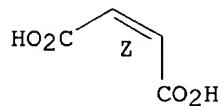
Relative stereochemistry.



CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.

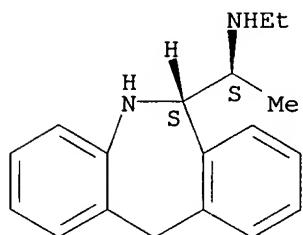


RN 94036-80-3 CAPLUS
CN 5H-Dibenzo[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-, (α R,6R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94018-73-2
CMF C18 H22 N2

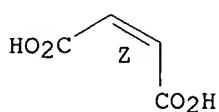
Relative stereochemistry.



CM 2

CRN 110-16-7
CMF C4 H4 O4

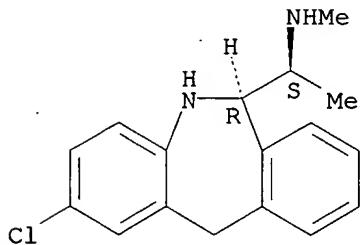
Double bond geometry as shown.



RN 94727-55-6 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N, α -dimethyl-, (R*,S*)- (9CI) (CA INDEX NAME)

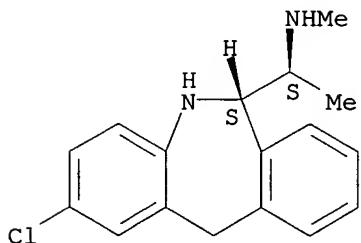
Relative stereochemistry.



RN 94727-56-7 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N, α -dimethyl-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT 94019-08-6P 94019-09-7P 94019-16-6P

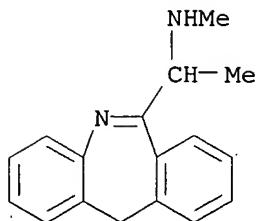
94019-17-7P 94019-18-8P 94019-19-9P

94727-54-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reduction of)

RN 94019-08-6 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N, α -dimethyl- (9CI) (CA INDEX NAME)



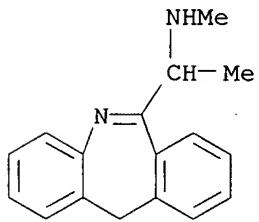
RN 94019-09-7 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N, α -dimethyl-,
(2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-08-6

CMF C17 H18 N2

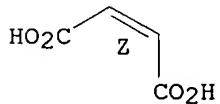


CM 2

CRN 110-16-7

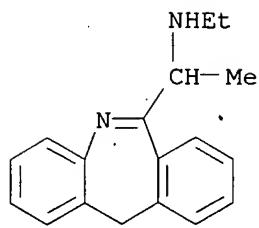
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-16-6 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl- α -methyl- (9CI) (CA INDEX NAME)



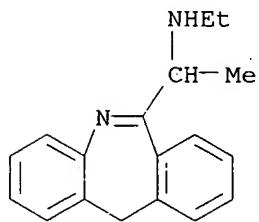
RN 94019-17-7 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl- α -methyl-,
(2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-16-6

CMF C18 H20 N2

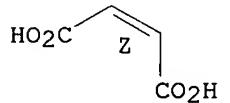


CM 2

CRN 110-16-7

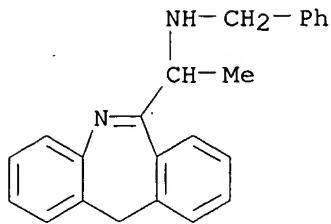
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-18-8 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, α -methyl-N-(phenylmethyl)-
(9CI) (CA INDEX NAME)



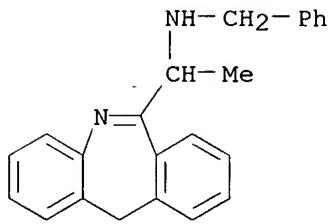
RN 94019-19-9 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, α -methyl-N-(phenylmethyl)-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-18-8

CMF C23 H22 N2

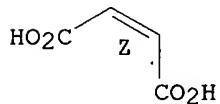


CM 2

CRN 110-16-7

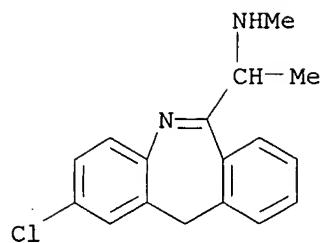
CMF C4 H4 O4

Double bond geometry as shown.



RN 94727-54-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-N, α -dimethyl- (9CI) (CA INDEX NAME)

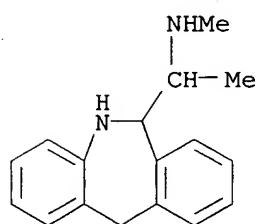


IT 94018-66-3P 94018-67-4P 94018-68-5P
94018-69-6P 94018-73-2P 94019-24-6P

94019-25-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

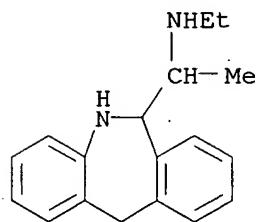
RN 94018-66-3 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -dimethyl-
(9CI) (CA INDEX NAME)



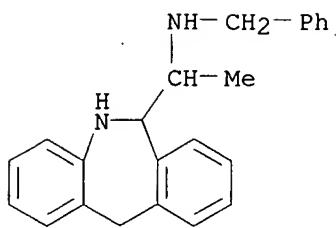
RN 94018-67-4 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-
(9CI) (CA INDEX NAME)



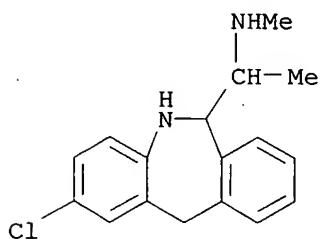
RN 94018-68-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-
(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 94018-69-6 CAPLUS

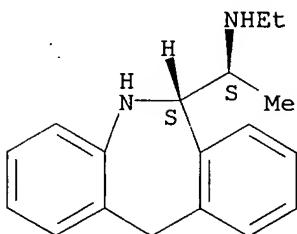
CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N, α -dimethyl- (9CI) (CA INDEX NAME)



RN 94018-73-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-, (R*,R*)- (9CI) (CA INDEX NAME)

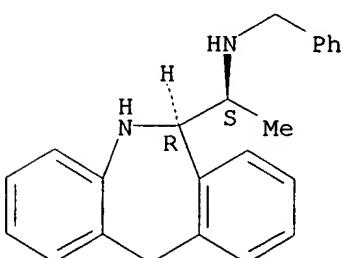
Relative stereochemistry.



RN 94019-24-6 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-(phenylmethyl)-, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 94019-25-7 CAPLUS

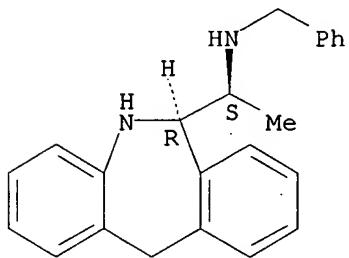
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-(phenylmethyl)-, (α R,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-24-6

CMF C23 H24 N2

Relative stereochemistry.

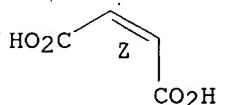


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.

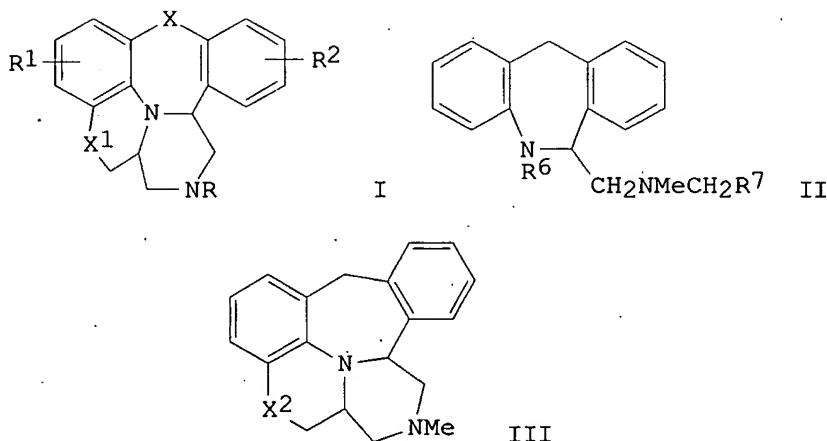


ANSWER 22 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1984:139160 CAPLUS
 DOCUMENT NUMBER: 100:139160
 TITLE: Pentacyclic compounds
 INVENTOR(S): Gardner, Derek Victor; White, Trevor John
 PATENT ASSIGNEE(S): Beecham Group PLC, UK
 SOURCE: Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|------------|
| EP 90552 | A2 | 19831005 | EP 1983-301475 | 19830317 |
| EP 90552 | A3 | 19840425 | | |
| R: BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| AU 8312849 | A1 | 19830929 | AU 1983-12849 | 19830325 |
| ZA 8302145 | A | 19840530 | ZA 1983-2145 | 19830325 |
| US 4469697 | A | 19840904 | US 1983-479016 | 19830325 |
| ES 521020 | A1 | 19841001 | ES 1983-521020 | 19830325 |
| JP 58189182 | A2 | 19831104 | JP 1983-52279 | 19830328 |
| PRIORITY APPLN. INFO.: | | | GB 1982-9087 | A 19820327 |
| | | | GB 1982-9298 | A 19820330 |
| | | | GB 1982-12154 | A 19820427 |

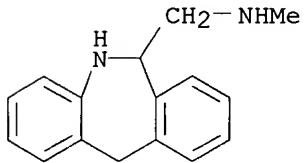
OTHER SOURCE(S): MARPAT 100:139160

GI

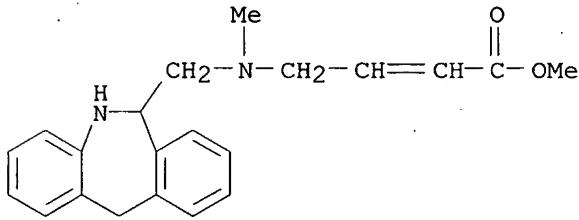


AB Pentacyclic hydroxytryptamine antagonists I [R = H, cycloalkyl, cycloalkenyl, (un)substituted alkyl; R1, R2 = H, halogen, OH, alkyl, alkoxy, F3C; X = CH₂, O, S, NR₃; R₃ = H, alkyl; X₁ = NR₄CH₂, NR₄CO, CH₂NR₅, CONR₅; R₄, R₅ = H, alkyl, acyl] were prepared. Thus, dibenzoazepine II (R₆ = H, R₇ = CH:CHCO₂Me) was cyclized to give pyrazino[1,2-f]morphanthridine II (R₆R₇ = CHCH₂CO₂Me). The last was demethylated and cyclized to give diazabenzocycloheptene III (X₂ = CO), which was treated with NH₂OH to give III (X₂ = C:NOH). Beckmann rearrangement of III (X₂ = C:NOH) gave III (X₂ = NHCO). III (X₂ = NHCO) inhibited

IT 5-methoxy-N,N-dimethyltryptamine with an ED50 of 3.0 mg/kg orally in mice.
IT 21535-45-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylation of)
RN 21535-45-5 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

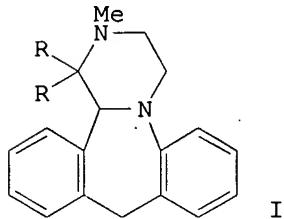


IT 83581-21-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of, pyrazinomorphanthridine by)
RN 83581-21-9 CAPLUS
CN 2-Butenoic acid, 4-[[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]-, methyl ester (9CI) (CA INDEX NAME)

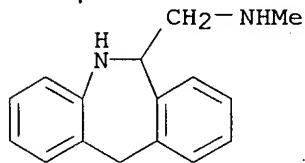


10/510,008

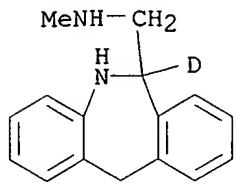
ANSWER 23 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:34501 CAPLUS
DOCUMENT NUMBER: 100:34501
TITLE: Syntheses and NMR analyses of deuterated mianserins
AUTHOR(S): Kaspersen, Frans M.; Favier, J. S.; Wagenaars, Gerard;
Wallaart, Jan; Funke, Carel W.
CORPORATE SOURCE: Sci. Dev. Group, Organon Int. B.V., Oss, 5340 BH,
Neth.
SOURCE: Recueil: Journal of the Royal Netherlands Chemical
Society (1983), 102(10), 457-60
CODEN: RJRSDK; ISSN: 0165-0513
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB Eleven deuterated analogs of mianserin (I, R = H) were prepared and analyzed by ^1H and ^{13}C NMR to elucidate the ^1H -NMR spectrum of mianserin. Thus, I ($\text{R} = \text{D}$) was reduced with LiAlD_4 to give I ($\text{R} = \text{D}$).
IT 21535-45-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with chloroacetic anhydride)
RN 21535-45-5 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



IT 88423-54-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion to labeled mianserin)
RN 88423-54-5 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-6-d-N-methyl- (9CI) (CA INDEX NAME)

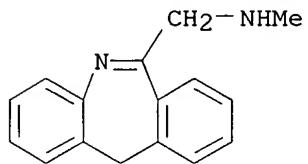


IT 46880-91-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)

RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)

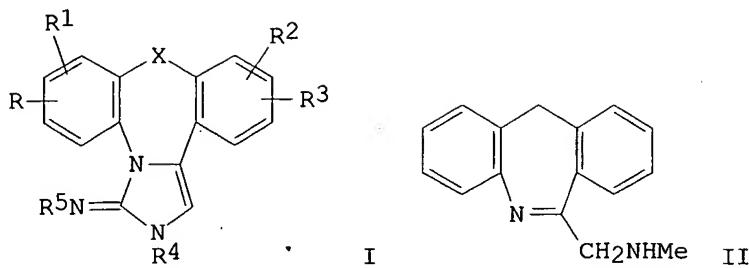


RL: RCT (Reactant); RACT (Reactant or reagent)
(redn. of, with sodium borohydride)

10/510,008

ANSWER 24 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1983:198233 CAPLUS
DOCUMENT NUMBER: 98:198233
TITLE: Heterocyclic compounds and their use
INVENTOR(S): Walther, Gerhard; Schneider, Claus; Weber, Karl Heinz;
Fuegner, Armin
PATENT ASSIGNEE(S): Boehringer Ingelheim K.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 24 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|----------|-----------|-----------------|------------|
| DE 3134672 | A1 | 19830317 | DE 1981-3134672 | 19810902 |
| US 4503060 | A | 19850305 | US 1982-410006 | 19820820 |
| JP 58046089 | A2 | 19830317 | JP 1982-149040 | 19820827 |
| JP 03080795 | B4 | 19911226 | | |
| EP 73506 | A1 | 19830309 | EP 1982-107929 | 19820828 |
| EP 73506 | B1 | 19860219 | | |
| R: AT, BE, CH, DE, FR, IT, LI, LU, NL, SE | | | | |
| AT 18049 | E | 19860315 | AT 1982-107929 | 19820828 |
| DD 204255 | A5 | 19831123 | DD 1982-242882 | 19820830 |
| CA 1169858 | A1 | 19840626 | CA 1982-410412 | 19820830 |
| FI 8203001 | A | 19830303 | FI 1982-3001 | 19820831 |
| FI 76089 | B | 19880531 | | |
| FI 76089 | C | 19880909 | | |
| SU 1155158 | A3 | 19850507 | SU 1982-3484887 | 19820831 |
| PL 135812 | B1 | 19851231 | PL 1982-238090 | 19820831 |
| DK 8203911 | A | 19830303 | DK 1982-3911 | 19820901 |
| DK 160047 | B | 19910121 | | |
| DK 160047 | C | 19910610 | | |
| NO 8202948 | A | 19830303 | NO 1982-2948 | 19820901 |
| NO 160445 | B | 19890109 | | |
| NO 160445 | C | 19890419 | | |
| GB 2108112 | A1 | 19830511 | GB 1982-24915 | 19820901 |
| GB 2108112 | B2 | 19850109 | | |
| ES 515413 | A1 | 19830816 | ES 1982-515413 | 19820901 |
| HU 27656 | O | 19831028 | HU 1982-2808 | 19820901 |
| HU 185110 | B | 19841228 | | |
| AU 8287926 | A1 | 19840308 | AU 1982-87926 | 19820901 |
| AU 550340 | B2 | 19860320 | | |
| ZA 8206380 | A | 19840530 | ZA 1982-6380 | 19820901 |
| CS 236680 | B2 | 19850515 | CS 1982-6355 | 19820901 |
| IL 66694 | A1 | 19850630 | IL 1982-66694 | 19820901 |
| ES 521604 | A1 | 19840516 | ES 1983-521604 | 19830419 |
| ES 521605 | A1 | 19840516 | ES 1983-521605 | 19830419 |
| PRIORITY APPLN. INFO.: | | | DE 1981-3134672 | A 19810902 |
| | | | EP 1982-107929 | A 19820828 |
| OTHER SOURCE(S): | CASREACT | 98:198233 | | |
| GI | | | | |



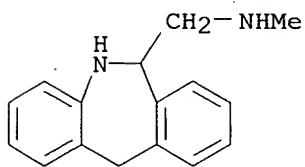
AB The title compds. I [R-R3 = H, halo, alkyl, alkoxy; R4 = alkyl, alkenyl, (un)substituted Ph, aralkyl; R5 = H, alkyl, alkenyl; X = CH₂, O, S] and their 1,13b-dihydro derivs. were prepared. Thus, II was cyclocondensed with BrCN to give 77% I.HBr (R-R3 = R5 = H, R4 = Me; X = CH₂) (III). III had ED₅₀ of 1.1 mg/kg orally in rats in the passive cutaneous anaphylaxis test.

IT 21535-45-5 46880-91-5 85777-36-2
85777-37-3 85777-38-4 85777-39-5
85777-40-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with cyanogen bromide)

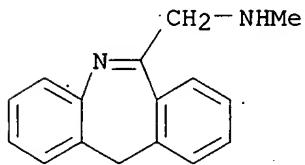
RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



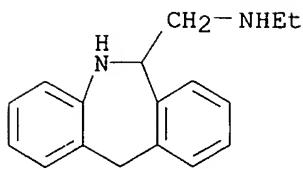
RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)



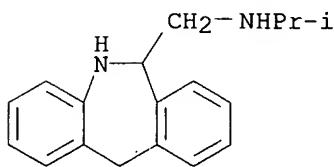
RN 85777-36-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- (9CI) (CA INDEX NAME)



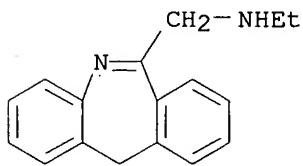
RN 85777-37-3 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-(1-methylethyl)- (9CI)
(CA INDEX NAME)



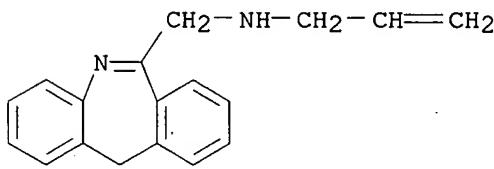
RN 85777-38-4 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl- (9CI) (CA INDEX NAME)



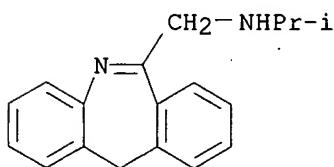
RN 85777-39-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-2-propenyl- (9CI) (CA INDEX NAME)



RN 85777-40-8 CAPLUS

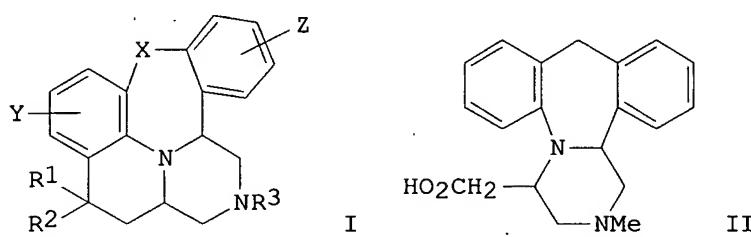
CN 11H-Dibenz[b,e]azepine-6-methanamine, N-(1-methylethyl)- (9CI) (CA INDEX NAME)



10/510,008

ANSWER 25 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:598228 CAPLUS
DOCUMENT NUMBER: 97:198228
TITLE: Pentacyclic compounds and their use
INVENTOR(S): Gardner, Derek Victor
PATENT ASSIGNEE(S): Beecham Group PLC, UK
SOURCE: Eur. Pat. Appl., 54 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------|--------|-----------|-----------------|------------|
| EP 55546 | A1 | 19820707 | EP 1981-305861 | 19811214 |
| EP 55546 | B1 | 19840801 | | |
| R: BE, CH, DE, FR, IT, LU, NL, SE | | | | |
| GB 2091247 | A | 19820728 | GB 1981-37604 | 19811214 |
| GB 2091247 | B2 | 19840718 | | |
| US 4442098 | A | 19840410 | US 1981-332347 | 19811218 |
| ZA 8108804 | A | 19821124 | ZA 1981-8804 | 19811221 |
| JP 57134483 | A2 | 19820819 | JP 1981-215973 | 19811230 |
| ES 508465 | A1 | 19831116 | ES 1981-508465 | 19811230 |
| CA 1167439 | A1 | 19840515 | CA 1981-393370 | 19811230 |
| AU 8179131 | A1 | 19820708 | AU 1981-79131 | 19811231 |
| AU 551160 | B2 | 19860417 | | |
| PRIORITY APPLN. INFO.: | | | GB 1980-41558 | A 19801231 |
| OTHER SOURCE(S): | MARPAT | 97:198228 | | |
| GI | | | | |

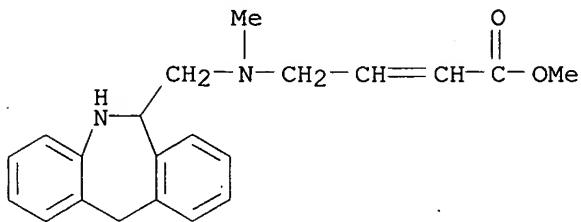


AB Condensed pentacyclic compds. I [R1 = H, alkyl, (un)substituted Ph, phenylalkyl; R2 = H, OH, alkoxy, phenylalkoxy, acyloxy, NR4R5 (R4 = H, R5 = OH, alkoxy, R4R5 = oxapolyethylene), R1R2 = O; R3 = H, alkyl; X = CH2, O, S, NR (R = H, alkyl); Y, Z = H, alkyl, alkoxy, halo, CF3], useful as antidepressants or mild tranquilizers were prepared. Thus, 6-methylaminomethyl-5,6-dihydromorphanthridine was treated with BrCH2CH:CHCO2Me to give 65% Me 4-(methylaminomethyl)-5,6-dihydro-6-morphanthridinyl)-2-butenoate which was cyclized and saponified to give II. Subsequent intramol. cyclocondensation gave 45% I (R1R2 = O, R3 = Me, X = CH2, Y = Z = H) which was reduced by LiAlH4 to give I (R1 = OH, R2 = H, X, Y, Z as above) followed by dehydration and hydrogenation to give I (R1R2 = H2, R3, X, Y, Z as above).

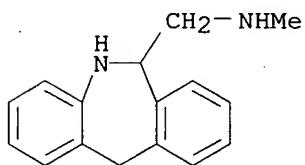
IT 83581-21-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and intermol. cycloaddn. of)

RN 83581-21-9 CAPLUS
CN 2-Butenoic acid, 4-[[[6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]-, methyl ester (9CI) (CA INDEX NAME)



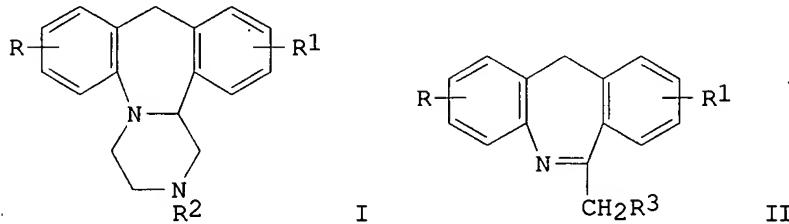
IT 21535-45-5
RL: PROC (Process)
(substitution of, by Me bromocrotonate)
RN 21535-45-5 CAPLUS
CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



ANSWER 26 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1982:20122 CAPLUS
 DOCUMENT NUMBER: 96:20122
 TITLE: Piperazine derivatives
 INVENTOR(S): Torres Estebán, Jose María; De Mas Rocabayera,
 Teodoro; Aguila Salomo, Santiago; Blade Font, Arturo
 PATENT ASSIGNEE(S): Laboratorios Prem S. A., Spain
 SOURCE: Span., 11 pp.
 CODEN: SPXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Spanish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-------------|
| ES 491364 | A1 | 19810416 | ES 1980-491364 | 19800509 |
| PRIORITY APPLN. INFO.: | | | ES 1980-491364 | A1 19800509 |

GI

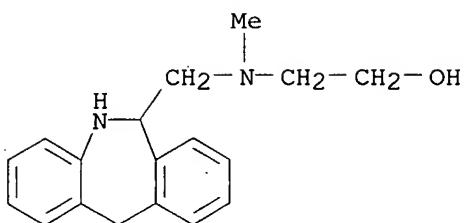


AB Pyrazino[1,2-f]morphanthridines I (R, R1 = H, halo, C1-4 alkyl, C1-3 alkoxy; R2 = C1-5 alkyl) and their salts, useful as serotonin antagonists (no data), were prepared by aminating 6-(chloromethyl)morphanthridines (II; R3 = Cl) with R2NHCH2CH2OH, reduction of the N(5)-C(6) double bond in II (R3 = HOCH2CH2NR2), followed by cyclization. Thus, stirring II (R = R1 = H, R3 = Cl) with MeNHCH2CH2OH in CH2Cl2 2 h gave II (R3 = HOCH2CH2NMe) which was reduced by NaBH4 in CH2Cl2-EtOH, and the dihydro derivative cyclized by treatment with Ph3P, Et3N, and CCl4 in MeCN to give I (R = R1 = H, R2 = Me), isolated as the HCl salt.

IT 79925-23-8P 79925-26-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and cyclization of)

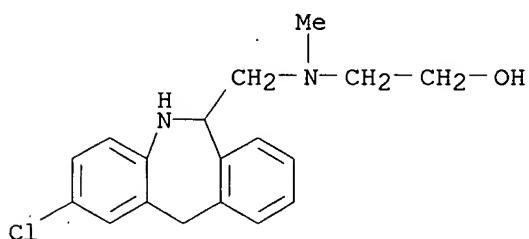
RN 79925-23-8 CAPLUS

CN Ethanol, 2-[[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]- (9CI) (CA INDEX NAME)



RN 79925-26-1 CAPLUS

CN Ethanol, 2-[(2-chloro-6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methylamino]- (9CI) (CA INDEX NAME)

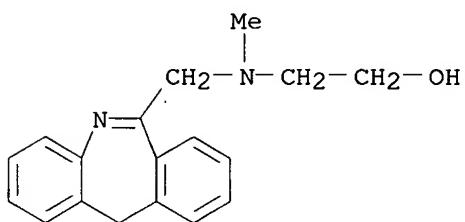


IT 79925-22-7P 79925-25-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

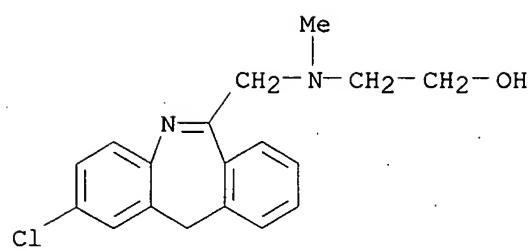
RN 79925-22-7 CAPLUS

CN Ethanol, 2-[(11H-dibenz[b,e]azepin-6-yl-methyl)methylamino]- (9CI) (CA INDEX NAME)



RN 79925-25-0 CAPLUS

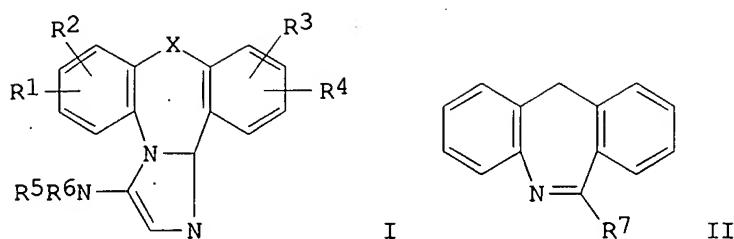
CN Ethanol, 2-[(2-chloro-11H-dibenz[b,e]azepin-6-yl)methyl]methanol- (9CI) (CA INDEX NAME)



10/510,008

ANSWER 27 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:6777 CAPLUS
DOCUMENT NUMBER: 96:6777
TITLE: Dibenzimidazoazepines and their use
INVENTOR(S): Walther, Gerhard; Schneider, Claus S.; Weber, Karl
Heinz; Fuegner, Armin
PATENT ASSIGNEE(S): Boehringer, C. H., Sohn, Fed. Rep. Ger.
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|--------|----------|-----------------|------------|
| DE 3008944 | A1 | 19810924 | DE 1980-3008944 | 19800308 |
| US 4313931 | A | 19820202 | US 1981-236818 | 19810223 |
| NO 8100762 | A | 19810909 | NO 1981-762 | 19810305 |
| NO 162073 | B | 19890724 | | |
| NO 162073 | C | 19891101 | | |
| EP 35749 | A1 | 19810916 | EP 1981-101564 | 19810305 |
| EP 35749 | B1 | 19840606 | | |
| R: AT, BE, CH, DE, FR, IT, LU, NL, SE | | | | |
| JP 56139484 | A2 | 19811030 | JP 1981-31903 | 19810305 |
| JP 03066311 | B4 | 19911016 | | |
| DD 156708 | C | 19820915 | DD 1981-228087 | 19810305 |
| SU 1015829 | A3 | 19830430 | SU 1981-3252241 | 19810305 |
| AT 7788 | E | 19840615 | AT 1981-101564 | 19810305 |
| DK 8101035 | A | 19810909 | DK 1981-1035 | 19810306 |
| DK 154299 | B | 19881031 | | |
| DK 154299 | C | 19890328 | | |
| FI 8100712 | A | 19810909 | FI 1981-712 | 19810306 |
| FI 70898 | B | 19860718 | | |
| FI 70898 | C | 19861027 | | |
| GB 2071095 | A | 19810916 | GB 1981-7114 | 19810306 |
| GB 2071095 | B2 | 19830602 | | |
| AU 8168158 | A1 | 19810917 | AU 1981-68158 | 19810306 |
| AU 535359 | B2 | 19840315 | | |
| HU 22956 | O | 19820728 | HU 1981-572 | 19810306 |
| HU 180628 | B | 19830328 | | |
| ZA 8101500 | A | 19821124 | ZA 1981-1500 | 19810306 |
| ES 500150 | A1 | 19821201 | ES 1981-500150 | 19810306 |
| CS 221288 | P | 19830429 | CS 1981-1644 | 19810306 |
| CA 1150253 | A1 | 19830719 | CA 1981-372485 | 19810306 |
| IL 62309 | A1 | 19840629 | IL 1981-62309 | 19810306 |
| PL 132141 | B1 | 19850228 | PL 1981-230036 | 19810306 |
| RO 81652 | P | 19830429 | RO 1981-103617 | 19810307 |
| PRIORITY APPLN. INFO.: | | | DE 1980-3008944 | A 19800308 |
| OTHER SOURCE(S): | MARPAT | 96:6777 | EP 1981-101564 | A 19810305 |
| GI | | | | |



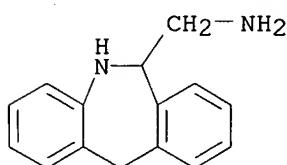
AB Dibenzimidazoazepines I (R1-R4 = H, halo, C1-6 alkyl or alkoxy; R5, R6 = H, C1-6 alkyl, C3-6 alkenyl; R5R6N = 1-pyrrolidinyl, piperidino, morpholino; X = O, S, CH₂) and their acid addition salts, useful in treating allergies, as antihistamines, blood platelet aggregation inhibitors, and anti-serotonin agents, were prepared. Successive cyanation of chlorodibenzazepine II (R7 = Cl) with NaCN (73.2% yield), AlH₃ reduction of cyanodibenzazepine II (R7 = cyano) (72.3%), and cyclization of (aminomethyl)dibenzazepine II (R7 = CH₂NH₂) gave dibenzimidazoazepine I·HBr (R1-R6 = H, X = CH₂) (III). The ED₅₀ for passive lung anaphylaxis in rats for III was 0.052 mg/kg i.v.

IT 41218-84-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide or carbon disulfide, or reaction with iso-Pr isocyanate)

RN 41218-84-2 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)

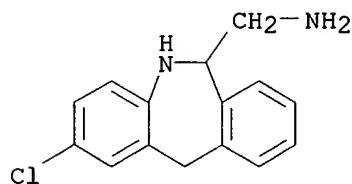


IT 80012-55-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide or dichloromethylenedimethylammonium chloride, dibenzimidazoazepine derivative by)

RN 80012-55-1 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro- (9CI) (CA INDEX NAME)

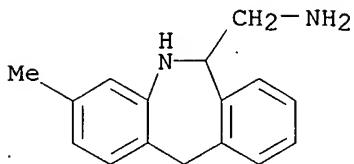


IT 80012-56-2

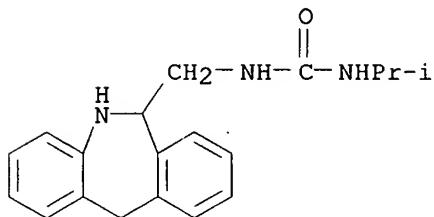
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide, dibenzimidazoazepine derivative by)

10/510,008

RN 80012-56-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-3-methyl- (9CI) (CA INDEX NAME)



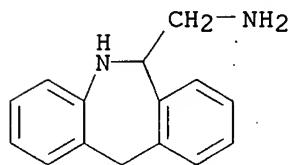
IT 80013-09-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of, by benzimidazoazepine by)
RN 80013-09-8 CAPLUS
CN Urea, N-[(10,11-dihydro-5H-dibenz[b,e]azepin-11-yl)methyl]-N'-(1-methylethyl)- (9CI) (CA INDEX NAME)



IT 80012-79-9P 80012-80-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 80012-79-9 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

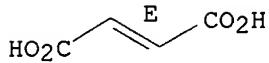
CRN 41218-84-2
CMF C15 H16 N2



CM 2

CRN 110-17-8
CMF C4 H4 O4

Double bond geometry as shown.



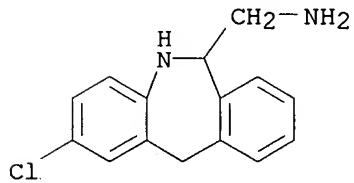
RN 80012-80-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-,
(2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 80012-55-1

CMF C15 H15 Cl N2

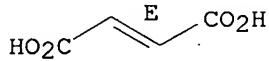


CM 2

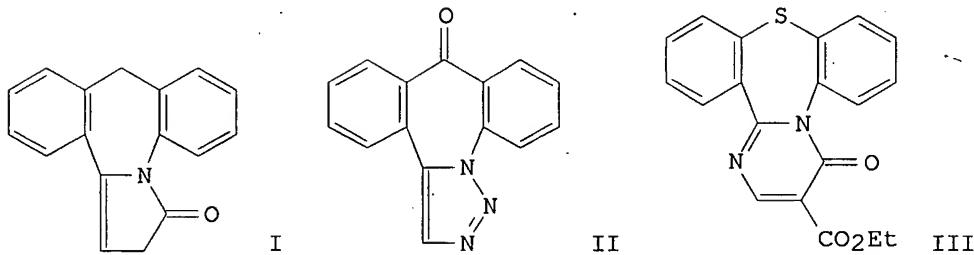
CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



ANSWER 28 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1980:532454 CAPLUS
 DOCUMENT NUMBER: 93:132454
 TITLE: Tetracyclic heterocycles as central nervous system (CNS) agents
 AUTHOR(S): Moffett, Robert Bruce
 CORPORATE SOURCE: Res. Lab., Upjohn Co., Kalamazoo, MI, 49001, USA
 SOURCE: Journal of Heterocyclic Chemistry (1980), 17(2), 341-50
 CODEN: JHTCAD; ISSN: 0022-152X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 93:132454
 GI



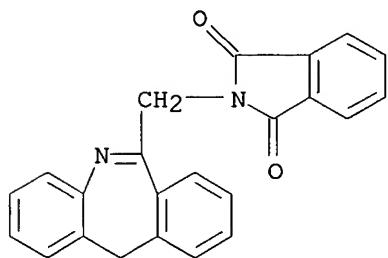
AB A number of new tri- and tetracyclic heterocycles, e.g. I, II, III, and open chain intermediates were prepared. Thus, N-(α -phenyl- ω -tolyl)succinimide was cyclized with POCl₃ and polyphosphoric acid to give I. None of I showed central nervous system activity greater than that of known analogs.

IT 74860-00-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

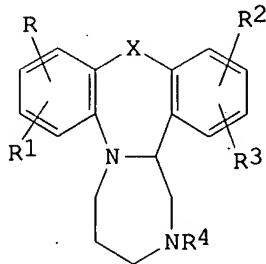
RN 74860-00-7 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)
 (CA INDEX NAME)



16 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1978:509613 CAPLUS
 DOCUMENT NUMBER: 89:109613
 TITLE: 1,4-Diazepine derivatives
 PATENT ASSIGNEE(S): AKZO N. V., Neth.
 SOURCE: Neth. Appl., 17 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| NL 7610942 | A | 19780404 | NL 1976-10942 | 19761002 |
| ZA 7705472 | A | 19780726 | ZA 1977-5472 | 19770912 |
| AU 7728838 | A1 | 19790322 | AU 1977-28838 | 19770915 |
| AU 511572 | B2 | 19800828 | | |
| GB 1567997 | A | 19800521 | GB 1977-38887 | 19770919 |
| US 4224321 | A | 19800923 | US 1977-835972 | 19770923 |
| DK 7704242 | A | 19780403 | DK 1977-4242 | 19770926 |
| DK 142582 | B | 19801124 | | |
| DK 142582 | C | 19810727 | | |
| FI 7702872 | A | 19780403 | FI 1977-2872 | 19770929 |
| BE 859279 | A1 | 19780330 | BE 1977-181377 | 19770930 |
| SE 7710958 | A | 19780403 | SE 1977-10958 | 19770930 |
| DE 2744179 | A1 | 19780406 | DE 1977-2744179 | 19770930 |
| FR 2366292 | A1 | 19780428 | FR 1977-29483 | 19770930 |
| FR 2366292 | B1 | 19800411 | | |
| JP 53059697 | A2 | 19780529 | JP 1977-118534 | 19770930 |
| CA 1082183 | A1 | 19800722 | CA 1977-287866 | 19770930 |
| HU 19777 | O | 19810428 | HU 1977-A0 | 452 19770930 |
| HU 177404 | P | 19811028 | HU 1977-AO452 | 19770930 |
| ES 462838 | A1 | 19780601 | ES 1977-462838 | 19771001 |
| PRIORITY APPLN. INFO.: | | | NL 1976-10942 | A 19761002 |
| GI | | | | |



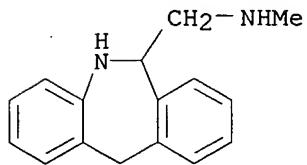
AB Antihistaminic and tranquilizing (no data) dibenzazepinodiazepines I (R-R3 = H, OH, alkyl, alkoxy, alkylthio, halogen, CF₃; R₄ = H, alkyl; X = CH₂, O) were prepared. Thus, I (X = O, R-R3 = H, R₄ = Me) (1.6 g) was obtained by B2H₆ reduction of 3.8 g of its 3-oxo derivative
 IT 21535-45-5

10/510,008

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dibromopropane)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA
INDEX NAME)



6 ANSWER 30 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1973:405339 CAPLUS
 DOCUMENT NUMBER: 79:5339
 TITLE: Imidazomorphanthridines, -phenanthridines, and
 dibenzimidazoazocines
 INVENTOR(S): Van der Burg, Willem Jacob
 PATENT ASSIGNEE(S): AKZO N.V.
 SOURCE: Ger. Offen., 22 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|------------|
| DE 2248477 | A1 | 19730412 | DE 1972-2248477 | 19721003 |
| NL 7113679 | A | 19730409 | NL 1971-13679 | 19711005 |
| ZA 7206504 | A | 19730627 | ZA 1972-6504 | 19720922 |
| US 3850956 | A | 19741126 | US 1972-291188 | 19720922 |
| GB 1404642 | A | 19750903 | GB 1972-43975 | 19720922 |
| AU 7247138 | A1 | 19740404 | AU 1972-47138 | 19720927 |
| CA 1001620 | A1 | 19761214 | CA 1972-152649 | 19720927 |
| BE 789410 | A2 | 19730115 | BE 1972-122526 | 19720928 |
| FI 54123 | C | 19781010 | FI 1972-2675 | 19720928 |
| FR 2158206 | A1 | 19730615 | FR 1972-35139 | 19721004 |
| JP 48044300 | A2 | 19730626 | JP 1972-99726 | 19721004 |
| ES 407319 | A1 | 19760116 | ES 1972-407319 | 19721004 |
| CH 575418 | A | 19760514 | CH 1972-14508 | 19721004 |
| SE 397354 | B | 19771031 | SE 1972-12778 | 19721004 |
| DK 136818 | B | 19771128 | DK 1972-4907 | 19721004 |
| HU 164359 | P | 19740228 | HU 1972-AO344 | 19721005 |
| AT 323180 | B | 19750625 | AT 1972-8543 | 19721005 |
| | | | NL 1971-13679 | A 19711005 |

PRIORITY APPLN. INFO.:

GI For diagram(s), see printed CA Issue.

AB Fourteen title compds. [I; Q = CH₂, CHMe, (CH₂)₂, CH:CH, or a bond; R = H, Me, Pr, or CH₂Ph; R₁, R₄ = H or Me; R₂ = H, Cl, or Me; R₃ = H or OMe], useful as antihistaminic and antiserotonic agents, were prepared preferable by condensation of the amines II with CH₂C₁₂. Thus, Me₂SO and Et₃N were added to II (Q = CH₂, R = Me, R₁-R₄ = H) in CH₂C₁₂, and the mixture was refluxed 5 hr to give racemic I (Q = CH₂, R = Me, R₁-R₄ = H). This was resolved into its (+)- and (-)-isomers via salts with (-)- and (+)-dibenzoyltartaric acid, resp.

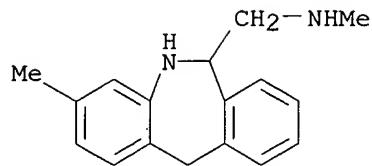
IT 41218-67-1 41218-74-0 41218-84-2

41218-94-4 41508-70-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization with methylene chloride)

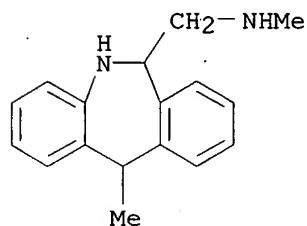
RN 41218-67-1 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,3-dimethyl- (9CI) (CA INDEX NAME)



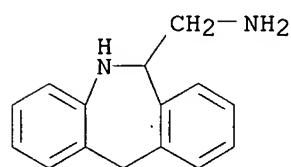
RN 41218-74-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,11-dimethyl- (9CI)
(CA INDEX NAME)



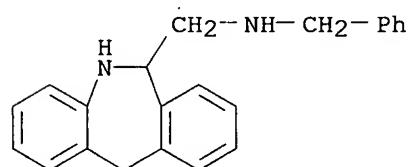
RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



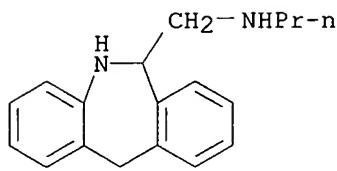
RN 41218-94-4 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-(phenylmethyl)- (9CI)
(CA INDEX NAME)



RN 41508-70-7 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-propyl- (9CI) (CA
INDEX NAME)

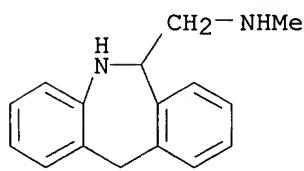


IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization with phosgene)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



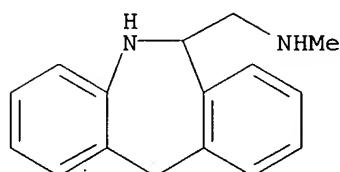
IT 41218-79-5P 41218-80-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 41218-79-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl-, (+)- (9CI)
(CA INDEX NAME)

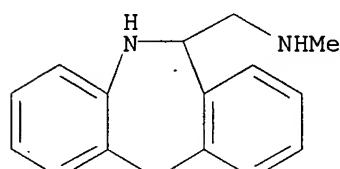
Rotation (+).



RN 41218-80-8 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl-, (-)- (9CI)
(CA INDEX NAME)

Rotation (-).



ANSWER 31 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1973:72243 CAPLUS
 DOCUMENT NUMBER: 78:72243
 TITLE: Piperazine derivatives
 PATENT ASSIGNEE(S): AKZO N. V.
 SOURCE: Neth. Appl., 10 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| NL 7107667 | | 19721206 | NL 1971-7667 | 19710604 |
| AT 317223 | | | AT | |
| CA 965091 | | | CA | |

GI For diagram(s), see printed CA Issue.

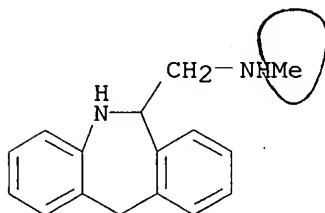
AB Piperazinodibenzazocloalkanes I ($Q = \text{CH}_2$, $R = \text{H}$, 8-OMe, $R_1 = \text{H}$; $Q = \text{O}$, $R = \text{H}$, 7-Me, $R_1 = \text{H}$, Me; Q = direct bond, $R = R_1 = \text{H}$) were prepared by cyclizing amines II with $\text{BrCH}_2\text{CH}_2\text{Br}$ and Et_3N . Yields were 36-75% in the absence of solvent and decreased with the use of solvent.

IT 21535-45-5 40132-44-3 40132-45-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of, with dibromoethane)

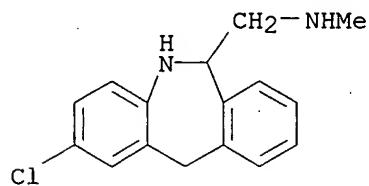
RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



RN 40132-44-3 CAPLUS

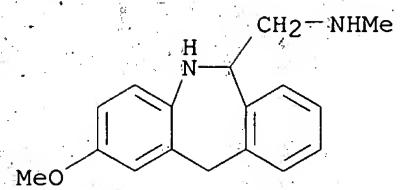
CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N-methyl- (9CI)
 (CA INDEX NAME)



RN 40132-45-4 CAPLUS

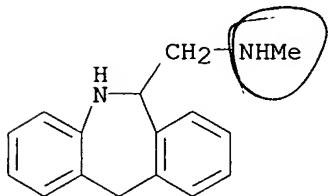
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-2-methoxy-N-methyl-
 (9CI) (CA INDEX NAME)

10/510,008



10/510,008

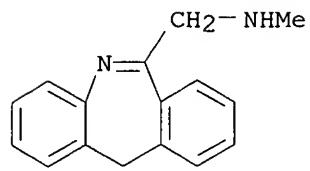
ANSWER 32 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1970:43609 CAPLUS
DOCUMENT NUMBER: 72:43609
TITLE: Novel type of substituted piperazine with high
antiserotonin potency
AUTHOR(S): Van der Burg, W. J.; Bonta, I. L.; Delobelle, J.;
Ramon, C.; Vargaftig, B.
CORPORATE SOURCE: Res. Lab., N. V. Organon, Oss, Neth.
SOURCE: Journal of Medicinal Chemistry (1970), 13(1), 35-9
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 72:43609
GI For diagram(s), see printed CA Issue.
AB Speculation as to the structural relationship between phenbenzamine and cyproheptadine (I) led to the synthesis of a series of tetracyclic compds. containing as a characteristic moiety a condensed piperazine ring resulting from the fixation of the ethylenediamine chain of phenbenzamine, whereas the two benzene nuclei of the latter are linked by a bond or a bridge of one or 2 C atoms. The piperazine ring system was formed by condensation of the respective diamines with diethyl oxalate (Riebsomer reaction), followed by reduction with diborane or LiAlH₄. These compds. as well as II were tested pharmacol. and one of them, 2-methyl-1,2,3,4,10,14b-hexahydro-2H-pyrazino[1,2-f]morphanthridine (III), mianserin, proved to have an antiserotonin potency of the same order as I. In animals III was found to have a less pronounced central depressant effect and lower acute toxicity than I.
IT 21535-45-5P 25577-92-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 21535-45-5 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



RN 25577-92-8 CAPLUS
CN Morphanthridine, 6-[(methylamino)methyl]-, maleate (1:1) (8CI) (CA INDEX NAME)

CM 1

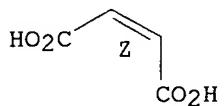
CRN 46880-91-5
CMF C16 H16 N2



CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



ANSWER 33 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1969:47499 CAPLUS
 DOCUMENT NUMBER: 70:47499
 TITLE: Substituted piperazines
 PATENT ASSIGNEE(S): Organon N.V.
 SOURCE: Neth. Appl., 19 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|-----------------|------------|
| NL 6603256 | A | 19670913 | NL 1966-3256 | 19660312 |
| DE 1695556 | B2 | 19801030 | DE 1967-N30139 | 19670309 |
| DE 1695556 | C3 | 19810625 | | |
| DE 1695556 | A | 19720120 | | |
| PRIORITY APPLN. INFO.: | | | NL 1966-3256 | A 19660312 |
| OTHER SOURCE(S): | MARPAT | 70:47499 | | |
| AB | Pyrazinophenanthridines, dibenzopyrazinoazocines and the title compds., are prepared by standard methods and have antiinflammatory, antiserotonin, antihistamine and antiphlogistic activity; the intermediates I have sympathomimetic and appetitereducing properties and spasmolytic activity. Thus, 45 g. PhNHCHPhCH ₂ COR (I, R = OEt) (II) m. 84-5° is added with stirring to 350 ml. 20% MeNH ₂ in MeOH to yield 87% I(R = NHMe) (III) m. 112-13° (MeOH). To a solution of 12 g. LiAlH ₄ in 500 ml. anhydrous Et ₂ O is added 24 g. III by Soxhlet extraction and the mixture is refluxed 3 hrs. and worked up to yield 70% PhNHCHPhCH ₂ NHR (IV, R = Me). HCl (V), m. 232°. A mixture of 21.2 g. V and 18.25 ml. (CO ₂ Et) ₂ is heated 0.5 hr. at 100-60° and kept 0.5 hr. at 160-80° to yield 60% 1,2-diphenyl-4-methyl-5,6-dioxopiperazine (VI), m. 171° (C ₆ H ₆). A solution of 6 g. VI in 400 ml. anhydrous tetrahydrofuran (THF) is reduced with a stream of diborane in N while the solution is gradually heated to the b.p. The mixture is refluxed 1.5 hrs. and worked up to yield 1,2-diphenyl-4-methylpiperazine.HCl (VII), m. 217°. Similarly prepared are the following: IV(R = H).maleate, m. 158-60°, 1,2-diphenyl-5,6-dioxopiperazine, m. 198-202° [HCONMe ₂ (DMF)-H ₂ O], and 1,2-diphenylpiperazine.2HCl (VIII), m. 249-54° (EtOH-Et ₂ O). A mixture of 10 g. VIII, 1.9 ml. AcOH, 4.5 ml. 2-vinylpyridine and 12 ml. MeOH is refluxed 16 hrs. to yield 10 g. 1,2-diphenyl-4-(α-pyridylethyl)-piperazine, m. 90-2°; 3 HCl salt, m. 140-5°. A suspension of 120 g. 6-chloromethylphenanthridine(VIIIA), m. 130-4°, in 1700 ml. 12% MeNH ₂ in C ₆ H ₆ is kept 18 hrs. in a refrigerator and stirred occasionally to yield 107 g. oily 6-methylamino-methylphenanthridine (IX), which is dissolved in 750 ml. anhydrous Et ₂ O and added with stirring under N to a mixture of 50 g. LiAlH ₄ and 250 ml. Et ₂ O. The mixture is refluxed 1.5 hrs. to yield 90 g. oily 5,6-dihydro-derivative (X) of (IX). A mixture of 65 g. X and 50 ml. (CO ₂ Et) ₂ is treated as described for VI to yield 1,2-dioxo-3-methyl - 2,3,4,4a - tetrahydro - 1H - pyrazino[1,2-f]phenanthridine (XI), m. 227-9° (DMF-PhMe). XI (20.8 g.) is treated as described for VII to yield 16.6 g. 3-methyl-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f][phenanthridine].HCl (XII), m. 235-40° (decomposition) (MeOH-Et ₂ O). The following XC ₆ H ₄ NHCHPhCH ₂ COR (XIII, R = OEt) are prepared (X and m.p. given): p-Cl 79-80°; p-MeO, 45-6°; and VII (R = NHMe) (X, % yield, and m.p. given): p-Cl, 78, 112-13° (EtOH); p-Br, | | | |

86, 144-6° (C₆H₆); p-MeO, 80, 126-8° (EtOH). The substituted III are converted into the corresponding XC₆H₄NHCHPhCH₂NHMe by the method described before (X, % yield, and m.p. given): p-Cl, 60, 269-72° (H₂O); p-Br, 70, 263-6° (DMF-H₂O); p-MeO, 70, 198-9° (EtOH). These compds. are converted into the following 1-(substituted)phenyl-2-phenyl-4-methyl-5,6-dioxopiperazines (substituent, % yield, and m.p. given): p-Cl, 55, 179-81° (C₆H₆); p-Br, 50, 203-4° (C₆H₆); p-MeO, 75, 189-91° (EtOH). These compds. are converted into the corresponding VII [substituent on 1-phenyl group, m.p. base, and m.p. salt (with X HCl) given]: p-Cl, 102-4° (EtOH-H₂O), 2 HCl, 226-9° (EtOH); p-Br, 112-13° (EtOH-H₂O), 1 HCl, 250-4° (EtOH); p-MeO, 103-5° (EtOH), 2 HCl, 201-4° (EtOH). Starting with the 2-bromo derivative (XIV) of IX via the 2-bromo derivative of X the 10-bromo derivative (XIa) m. 251-3°, of XI is prepared, which is reduced with NaBH₄ to yield the 10-bromo derivative HCl m. 245° (decomposition) of XII. Similarly, 1,2-dioxo-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]phenanthridine, m. 265-70° is reduced with LiAlH₄ to yield 2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]phenanthridine (XV). Starting with XIV and ClCH₂COCl followed by reaction with α-pyridylethylamine 1-p-methoxyphenyl-2-phenyl-4-(α-pyridylethyl)-3,6-dioxopiperazine, m. 136-7°, is prepared which is reduced with LiAlH₄ to yield 1-p-methoxyphenyl-2-phenyl-4-(α-pyridylethyl)-piperazine, m. 97-9°. Similarly is prepared 1-p-chlorophenyl-2-phenyl-4-(dimethylaminoethyl)-3,6-dioxopiperazine.HCl, m. 241°, which is reduced with diborane to yield 1-p-chlorophenyl-2-phenyl-4-(dimethylaminoethyl)piperazine.2HCl, m. 258°. Starting with II 1,2-diphenyl-4-(α-pyridylethyl)-3,6-dioxopiperazine, m. 163-5°, is prepared which is reduced with LiAlH₄ to yield 1,2-diphenyl-4-(α-pyridylethyl)piperazine, m. 90-1°. Also are prepared 1-p-chlorophenyl-2-phenylpiperazine.HCl, m. 200°; 1,2-diphenyl-4-phenylmethyl-5,6-dioxopiperazine, m. 154-6°; 1,2-diphenyl-4-phenylmethylpiperazine, m. 214°; and 1-p-chlorophenyl-2-phenyl-4-phenylmethylpiperazine.2HCl, m. 214°. To a mixture of 10 g. 6-aminomethyl-5,6-dihydrophen-anthridine (XVI), 200 ml. anhydrous C₆H₆ and 4.2 ml. anhydrous C₅H₅N, cooled to 5-10° is added dropwise with stirring in 20 min. a solution of 8.3 ml. ClCOCH₂Ph in 10 ml. C₆H₆; the mixture is kept 15 min. with stirring at 10° and 45 min. at room temperature to yield 14.5 g. oily (6-(N-benzyloxycarbonyl) derivative (XVII) of

XVI. To 14.5 g. XVII, dissolved in 100 ml. C₆H₆ is added 1 mole C₅H₅N and dropwise 1.25 mole ClCH₂COCl at 10-5° with stirring. The mixture is stirred 30 min. at room temperature and 30 min. at 50°, to yield 85% 5-chloroacetyl derivative of XVII, which is treated 1 hr. in EtOH with H over Pd/C to remove the benzyloxycarbonyl group. After addition of C₅H₅N and ring closure, the 6-oxopiperazine formed is reduced to yield XV. To a solution of 25 g. 2-benylaniline in 150 ml. C₆H₆ is added with stirring at 8° 15 ml. C₅H₅N and a solution of 15 ml. ClCH₂COCl in 25 ml. C₆H₆ at 10-5°. The mixture is stirred 1 hr. at room temperature and worked up to yield 18 g. 2-PhCH₂C₆H₄NHCH₂COCl (XVIII) m. 130-3° (C₆H₆). A mixture of 40 g. XVIII, 50 ml. POCl₃, and 320 g. polyphosphoric acid is heated 2 hrs. at 120° to yield 24 g. 6-chloromethylmorphanthridine (XIX), m. 136-7°. XIX (10 g.) is converted into 11 g. crude 6-methylaminomethylmorphanthri-dine, which is reduced with LiAlH₄ to yield 11 g. light yellow oily, 5,6-dihydro derivative (XX). From 10 g. XX and 7 g. (CO₂Et)₂ via the method used for VI is obtained 9 g. 1,2-dioxo-3-methyl-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]morphanthridine, m. 245-7° (DMF), which is reduced with diborane to yield 3-methyl-2,3,4,4a-tetrahydro - 1H - pyrazino[1,2 - f]morphanthridine.HCl, m. 256-66°

(decomposition). A mixture of 10 g. 5H-dibenzo[a,d]-cyclohepten-5-one oxime, 5 ml. SOCl₂ and 30 ml. C₆H₆ is refluxed 16 hrs. to yield 10.5 g. crude 6-chlorodibenz[b,f]azocine (XXI). A mixture of 10 g. XXI, 100 ml. anhydrous DMF and 5 g. NaCN is refluxed 0.5 hr. to yield 6.2 g. 6-cyanodibenz[b,f]-azocine (XXII), m. 135-6° (MeOH). A solution of 6 g. XXII in 80 ml. anhydrous THF is added dropwise with stirring under N to a mixture of 13 g. LiAlH₄ in 300 ml. anhydrous THF. The mixture is refluxed 16 hrs. and worked up to yield 6 g. oily 6-aminomethyl-5,6-dihydridobenz[b,f]azocine (XXII). A mixture of 6 g. XXII and 50 ml. anhydrous HCO₂Me (free of HCO₂H) is refluxed 2 hrs. to yield 6.3 g. 6-formyl derivative XXIII of XXII. XXIII (5 g.) is reduced with LiAlH₄ in THF to yield 4.8 g. 6-methylaminomethyl-5,6-dihydridobenz[b,f]azocine, which is converted with 3.6 ml. (CO₂Et)₂ into 2.9 g. 1,2-dioxo-3-methyl-2,3,4,4a-tetrahydro-1H-dibenzo[c,g]pyrazino[1,2-a]azocine (XXIV). From 10 g. XXIV is obtained by reduction with diborane in THF 6.6 g. 3-methyl-2,3,4,4a-tetrahydro-1H-dibenzo[c,g]pyrazino[1,2-a]azocine.HCl. Starting with 2,4-PhBrC₆H₃NHCOCl, m. 108-10°, the 2-bromo derivative (XXV), m. 186-8°, of XIIIa is prepared by the method used for XIX and is converted with MeNH₂, and then is converted via XIa into oily XII.

IT 21535-45-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 21535-45-5 CAPLUS

CN 5H-Dibenzo[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

